OAH 8-2500-31260
MPUC Docket No. PL-6668 / CN-13-473

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

FOR THE PUBLIC UTILITIES COMMISSION

In the Matter of the Application of North Dakota Pipeline Company, LLC for a Certificate of Need for the Sandpiper Pipeline Project in Minnesota	**FINDINGS OF FACT, SUMMARY OF PUBLIC TESTIMONY, CONCLUSIONS OF LAW, AND RECOMMENDATION**

North Dakota Pipeline Company LLC (NDPC or the Applicant) seeks a Certificate of Need (CN) from the Minnesota Public Utilities Commission (the Commission or MPUC) for the Sandpiper Pipeline project (Sandpiper or Project).

This matter came before Administrative Law Judge Eric L. Lipman for an evidentiary hearing on January 27, 28, 29, and 30, 2015. The hearing record closed on March 13, 2015, following the receipt of the last of the post-hearing briefs.

APPEARANCES IN THE CONTESTED CASE

Christina K. Brusven, John E. Drawz, and Patrick D.J. Mahlberg, Fredrikson & Byron, P.A.; Kevin Walli and John R. Gasele, Fryberger, Buchanan, Smith & Frederick, P.A.; James D. Watts, Enbridge Energy Limited Partnership; and Randy V. Thompson, Nolan, Thompson & Leighton, appeared on behalf of NDPC.

Byron E. Starns, Brian M. Meloy, and Andrew J. Gibbons, Stinson Leonard Street, appeared on behalf of Kennecott Exploration Company (Kennecott).

Gerald W. Von Korff, Rinke Noonan, appeared on behalf of the Carlton County Land Stewards (CCLS).

Frank Bibeau, Attorney at Law, and Peter Erlinder, International Humanitarian Law Institute, appeared on behalf of Honor the Earth (HTE).

Joseph Plumer and Jessica Miller, Tribal Attorneys, appeared on behalf of the White Earth Band of Ojibwe (WEBO).

Richard Smith and Eileen Shore, Steering Group Members, appeared on behalf of the Friends of the Headwaters (FOH).

Benjamin L. Gerber, Manager for Energy Policy, appeared on behalf of the Minnesota Chamber of Commerce (Minnesota Chamber).

Kevin Pranis, Business Representative, appeared on behalf of the Laborers' District Council of Minnesota and North Dakota (Laborers).

Ellen O. Boardman, O'Donoghue and O'Donoghue LLP, and David L. Barnett, Special Representative, appeared on behalf of the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada (the UA).

Neil J. Roesler, Vogel Law Firm, Jon Godfread, Vice President of Governmental Affairs, and Helene Herauf, Government and Regulatory Affairs Specialist, appeared on behalf of the Greater North Dakota Chamber of Commerce (North Dakota Chamber).

Julia E. Anderson and Peter Madsen, Assistant Attorneys General, appeared on behalf of the Minnesota Department of Commerce, Division of Energy Resources, Energy Regulation and Planning (DOC-DER).

Linda S. Jensen, Assistant Attorney General, appeared on behalf of the Minnesota Department of Commerce, Energy Environmental Review and Analysis Unit (DOC-EERA).

INTRODUCTION

NDPC proposes to construct a pipeline and associated facilities that will transport crude oil from its Beaver Lodge Station, south of Tioga, North Dakota, to a terminal in Clearbrook, Minnesota, and later from Clearbrook on to Superior, Wisconsin.

Because of the size of the proposed project, Minnesota law conditions the siting and construction of such a pipeline upon NDPC first obtaining a Certificate of Need.

The Minnesota Public Utilities Commission issues these certificates if it is persuaded that the facilities are "needed," as defined by a special set of regulatory criteria. The criteria, found in Minn. R. 7853.0130 (2013), weigh features of the proposed facility's costs, benefits, design, construction, operation and impacts.

NDPC's proposal is highly controversial. The parties diverge on a central point: whether the benefits of improving access to North Dakota crude oil are worth assuming the risks that there might later be a large-scale oil spill from the pipeline.

From NDPC's perspective, the key goals of the Project are to reduce shipping bottlenecks at its existing Clearbrook Terminal and to develop robust and flexible routes for transporting North Dakota crude oil to the refineries that want it. It argues that the risks of large-scale oil spill are small, and manageable, and should not impede development of a pipeline that would greatly benefit Minnesota and the region.

Opponents of the Project maintain that both planned and accidental discharges of oil from the proposed pipeline will foul the air and water; and that these effects are not sufficiently addressed by NDPC's proposal.

STATEMENT OF THE ISSUE

Has NDPC met the criteria for a Certificate of Need for the Sandpiper project under Minn. Stat. § 216B.243 (2014) and Minn. R. 7853.0130?

SUMMARY OF CONCLUSIONS

The Commission should grant a Certificate of Need to NDPC for the Project.

NDPC has complied with all relevant statutes and regulations regarding its Certificate of Need application. NDPC has demonstrated that application of the criteria in Minn. R. 7853.0130, to the facts in the hearing record, support issuance of a Certificate of Need. Moreover, no party demonstrated, under Minn. R. 7853.0130(B), that there was a more reasonable and prudent alternative to the proposed project.

Based upon the submissions of the parties, and the contents of the hearing record, the Administrative Law Judge makes the following:

FINDINGS OF FACT

I. THE APPLICANT AND ITS PARENT COMPANIES

1. NDPC is a Delaware limited liability company that is qualified to do business in Minnesota. NDPC is a joint venture between Enbridge Energy Partners, L.P., NDPC's former sole parent entity, and Williston Basin Pipeline LLC, a wholly-owned indirect subsidiary of Marathon Petroleum Corporation (Marathon).[1]

2. Enbridge, Inc. and its corporate affiliates form a leading energy and transportation company in North America. The various U.S. and Canadian entities are all commonly referred to as "Enbridge."[2]

3. As an integrated enterprise, Enbridge operates the longest crude oil pipeline system in the world, delivering nearly 2.2 million barrels of crude oil every day to markets in the United States and Canada.[3]

4. NDPC owns and operates an interstate crude oil transportation system (NDPC System) that gathers crude oil from points near producing wells in North Dakota and Montana and transports these products to both Enbridge Mainline System and

[1] Ex. 6, at 7:201-204 (Eberth Direct).

[2] Ex. 3, Part 7853.0230, at 2 (Revised CN Application).

[3] Ex. 6, at 7:222-25 (Eberth Direct).

Minnesota Pipe Line Company System (MPL or MPL System) at Clearbrook, Minnesota.[4]

5. The Enbridge Mainline System is the United States portion of an operationally integrated pipeline system that spans 3,300 miles across North America.[5]

6. Through the Enbridge pipeline systems, oil shippers in North Dakota have access to several crude oil refinery markets in the Midwestern United States.[6]

7. The NDPC System is operated by Enbridge Operating Services, LLC, which plans to construct and operate the proposed Project on behalf of NDPC.[7]

8. Marathon is an independent petroleum refining, transportation, and marketing company with more than 125 years of experience in the energy industry.[8]

9. Marathon purchases more than 50 million barrels of crude oil each month, from sources all over the world, for its seven-refinery system.[9]

10. In November 2013, Marathon committed to funding 37.5 percent of the Project, as well as being an anchor shipper on the Project. In exchange, if the Project is placed into service, Marathon will have nearly a 27 percent equity interest in the NDPC System. Marathon has also made a significant commitment to either ship or pay for capacity on the Project.[10]

II. PROCEDURAL HISTORY BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION (FERC)

A. MARKET CONDITIONS THAT PROMPTED NDPC'S REQUESTS FOR DECLARATORY ORDERS

11. Crude oil production in North Dakota has significantly increased over the last six years, rising from 138,000 barrels per day (bpd) in January 2008 to 911,000 bpd in August 2013. Supply forecasts from the North Dakota Pipeline Authority predict a continued growth in the Bakken production over the next 8 to 10 years, gradually

---

[4] Ex. 6, at 7:204-2208 (Eberth Direct).

[5] Ex. 1, Part 7853.0230, at 2 (Application).

[6] *Id*.

[7] Ex. 7, at 1:7-9 (Steede Direct).

[8] Ex. 13, at 3:82-90 (Palmer Direct). Marathon's interest in NDPC is held through a wholly-owned indirect subsidiary. Marathon Petroleum Company, LP, also an indirect wholly-owned subsidiary of Marathon Petroleum Corporation, signed the Sandpiper Transportation Services Agreement. For ease of reference, all of the Marathon entities are referred to as "Marathon."

[9] Ex. 13, at 1:13-15 (Palmer Direct).

[10] *Id.* at 4:119-5:128 (Palmer Direct).

declining over the decade after that, before stabilizing at production levels above 1 million bpd.[11]

12. As a result of increasing production in the Bakken and Three Forks formations, NDPC is experiencing increasing demand for pipeline capacity out of North Dakota on the NDPC System.[12]

13. Because of the demand for shipments of crude oil from North Dakota to the Clearbrook Terminal, NDPC's tariff now makes only 10,500 bpd available to new shippers.[13]

14. New shippers include, for example, new producers in North Dakota, refineries seeking to start purchasing Bakken crude, new marketers in North Dakota, or existing shippers and refiners that would like to increase their utilization of Bakken crude oil. NDPC describes a "new shipper" as a firm that had nominated for transportation on Line 81 crude oil shipments in fewer than nine of the last twelve months.[14]

B. THE 2012 PETITION

15. In 2012, NDPC filed a Petition for Declaratory Order and Offer of Settlement in 2012 (the 2012 Petition) with FERC. In its Petition, NDPC detailed its interest in developing a pipeline from Tioga, North Dakota to Superior, Wisconsin. NDPC asked federal regulators to confirm that it would be permitted to recover the costs of developing the new infrastructure through a cost-based surcharge on the shipments that were sent through the pipeline.[15]

16. By seeking pre-approval of rate and tariff structures through a declaratory order, an oil pipeline developer can mitigate its risk. Since 1996, FERC has signaled its willingness to render advance approvals of tariff structure for some "non-traditional" rates and terms of service, with "remaining inputs left to the traditional rate filing process." As the agency notes, "the declaratory order process allows the Commission to ensure that open seasons are conducted in a transparent and non-discriminatory manner and an oil pipeline's proposal conforms to the applicable statutes, regulations, and precedent."[16]

17. In the 2012 Petition, NDPC proposed that the pipeline would be funded through a cost-of-service surcharge on existing rates for all shippers using the Project

---

[11] Ex. 3, Part 7853.0240, at 3-4 (Revised CN Application).

[12] Ex. 7, at 2:62-67 (Steede Direct).

[13] Ex. 20, at 15:430-431 (Steede Rebuttal).

[14] *Id.* at 15:431-436 (Steede Rebuttal).

[15] Ex. 21, at 7:206-209 and Schedule 2 (MacPhail Rebuttal).

[16] *North Dakota Pipeline Company LLC,* 147 FERC ¶ 61,121, at 8-10 (2014); *see also*, *Express Pipeline P'ship*, 75 FERC ¶ 61,303, *reh'g and declaratory order*, 76 FERC ¶ 61,245, *reh'g denied*, 77 FERC ¶ 61,188 (1996).

for shipments between Beaver Lodge and Clearbrook, and new cost-of-service rate for the downstream pipeline segment between Clearbrook and Superior.[17]

18. In that Petition, NDPC proposed that all shippers on the Project would be uncommitted shippers.[18]

19. FERC denied the 2012 Petition without prejudice to refiling on the grounds that "the proposed rates have not been agreed to in writing by each person who is using the service on the day of the filing." The record presented to FERC did not confirm that all shippers endorsed NDPC's surcharge proposal.[19]

20. Following the denial of its Petition, NDPC engaged in a series of discussions with its shippers. The talks focused on whether NDPC could develop a revised tariff rate and service structure that would both meet FERC's regulatory requirements and enjoy broad support among its shippers.[20]

21. NDPC determined that the shippers who supported the Project fell into two groups: (1) shippers that were willing to commit to nominating substantial volumes of crude oil for shipment, under long-term "ship-or-pay" contracts; and (2) shippers that wanted access to additional pipeline capacity, but, for various business reasons, could not make long-term, ship-or-pay commitments.[21]

22. Under a "ship-or-pay" contract, a shipper that agrees to ship specific quantities of crude oil, at particular times, on the NDPC pipeline, will be liable for "deficiency payments" in the event that the oil is not tendered for shipment.[22]

23. NDPC designed a rate structure for these two, distinct groups of shippers. For those firms that were able to become "committed shippers," the rates to be paid reflected the selected delivery point, the level of service requested, and the volume commitments.[23]

---

[17] Ex. 21, Schedule 2, at 6 (MacPhail Rebuttal).

[18] Ex. 7, at 4:123-126 (Steede Direct); Ex. 21, Schedule 2, at 6-7 (MacPhail Rebuttal).

[19] *Enbridge Pipelines (North Dakota) LLC*, 142 FERC ¶ 61,212, at 9-10 (2013); Ex. 21, at 7:206-213 (MacPhail Rebuttal).

[20] Ex. 21, at 7:219-222 (MacPhail Rebuttal).

[21] *Id.* at 7:224-8:231 (MacPhail Rebuttal); Evid. Hr'g Tr. Vol. 2 at 73:3-17 (MacPhail).

[22] Ex. 21, Schedule 2, Attachment A, at 34 (MacPhail Rebuttal) (Sandpiper Project Transportation Services Agreement) ("8.01 Monthly Deficiency Payments. Commencing on the Shipper Commencement Date, if the volumes tendered by Shipper in any Month for transportation on the Pipeline from a TSA Receipt Point to a TSA Delivery Point total less than one hundred percent [100%] of the product of (a) the Committed Volume, multiplied by (b) the number of days in that Month, Shipper shall make a payment to Carrier in an amount [the 'Monthly Deficiency Payment'] equal to the Monthly Deficiency Quantity (determined in accordance with Section 8.02) multiplied by the applicable Deficiency Rate.").

[23] Ex. 21, Schedule 2, Attachment A, at 158-159 (MacPhail Rebuttal).

24. In addition to the revenues provided by the committed shippers, NDPC proposed to recover a portion of the costs of the Project through cost-based rate components charged to uncommitted shippers.[24]

25. NDPC created a pro-forma Transportation Service Agreement (TSA) that set forth the contractual obligations between NDPC and its committed shippers.[25]

26. This TSA was made available to interested shippers through the open season.[26]

27. NDPC proposed different rate components for the upstream portion of the Project between Beaver Lodge and Clearbrook and the downstream portion from Clearbrook to Superior.[27]

28. As to the upstream segment between Beaver Lodge and Clearbrook, NDPC proposed that uncommitted shippers would pay a surcharge that would be added to the existing transportation rates to Clearbrook after the Project begins transporting crude oil.[28]

29. Through this proposed rate structure, NDPC sought to recover the cost of the Project from both the shippers that used the new pipeline capacity and the shippers that used its existing pipeline capacity. NDPC argued that because the Project would operate to expand deliveries to the Clearbrook Terminal and reduce congestion on the existing pipeline, it benefitted all users of the system.[29]

30. As to the segment of the Project between Clearbrook and Superior, the costs would likewise be recovered through the committed revenues and a new cost-based rate component applied to uncommitted shippers. NDPC proposed that the shippers to Clearbrook would pay the pre-existing Clearbrook rate plus the new upstream rate component. The firms that nominated shipments to Superior would pay this same rate plus a rate component that reflected a share of the downstream costs.[30]

31. Utilizing this structure, NDPC held an open season between November 26, 2013 and January 24, 2014, offering its customers an opportunity to enter into TSAs for deliveries to Clearbrook and Superior.[31]

---

[24] Ex. 21, at 9:282-284 (MacPhail Rebuttal).

[25] *Id.* at Schedule 2, Attachment A, at 108-165 (MacPhail Rebuttal).

[26] Ex. 7, at 6:187-190 (Steede Direct).

[27] Ex. 21, at 9:284-86 (McPhail Rebuttal).

[28] *Id.* at 9:288-290 (MacPhail Rebuttal).

[29] *Id.* at 9:291-10:294 and 10:299-305 (MacPhail Rebuttal).

[30] *Id.* at at 10:307-312 (MacPhail Rebuttal).

[31] *Id.* at 8:236-238 (MacPhail Rebuttal).

32. NDPC received volume commitments totaling 155,000 bpd during the open season. In NDPC's view, this was a sufficient amount of committed volumes to ensure that the development of a new pipeline was a financially viable venture. As Bruce MacPhail, Enbridge's Director of Bakken Asset Performance and Development, summarized, "unlike the tariff structure proposed in the 2012 Petition, the revised structure was funded in substantial part by shipper volume commitments."[32]

33. Marathon is the Project's "anchor shipper" – a term that the parties and stakeholders used to connote Marathon's substantial, contractual commitment to use the proposed pipeline for shipments of crude oil out of North Dakota.[33]

34. While NDPC entered into its equity agreement with Marathon prior to start of the November 2013 "open season," it did not appear to FERC that "any favoritism was shown to Marathon Petroleum during the open season or that it signed a contract or received contract terms that were different than those available to any other potential shipper."[34]

35. Likewise significant, Marathon has structured significant business and capital plans around completion of the Sandpiper project. In addition to its purchase of an equity position in the Project (noted above), Marathon will invest a total of $410 million dollars to upgrade the capabilities of three Midwestern refineries to process "light, sweet crude oil" from North Dakota. The improvements to Marathon's refineries in Robinson, Illinois, Canton, Ohio, and Catlettsburg, Kentucky, are all timed to be completed on, or before, the in-service date of the proposed pipeline.[35]

C. THE 2014 PETITION

36. After completion of the open season, NDPC filed a second Petition for Declaratory Order with the FERC on February 12, 2014 (2014 Petition).[36]

37. In its 2014 Petition, NDPC sought FERC approval of key features of the proposed rate structure, recovery of project costs and ordering of shipments. Specifically, NDPC requested:

> (a) approval of its proposed tariff rate structure for the Project, including NDPC charging different rates to committed and uncommitted volumes;

---

[32] *Id.* at 8:245-250 (MacPhail Rebuttal).

[33] *Id.* at 8:246-248 (MacPhail Rebuttal); Ex. 13 at 4:119-5:128 (Palmer Direct).

[34] *Compare,* Ex. 13 at 4:119 - 5:124 and T. Vol. III at 37:1-8 with *North Dakota Pipeline Company LLC, supra*, at 10.

[35] Ex. 13, at 7:179-192 (Palmer Direct).

[36] Ex. 21, at 7:201-202 (MacPhail Rebuttal); *North Dakota Pipeline Company LLC, supra*, at 1.

(b) assurance that FERC would treat rates agreed to in TSAs during NDPC's open season as "settlement rates";

(c) approval of NDPC's method of recovery from uncommitted shippers amounts that are higher than the current base rates for service from Beaver Lodge to Clearbrook and from Clearbrook to Superior;

(d) approval of its methods for addressing any later apportionment on the Project; and

(e) confirmation that the terms of the TSAs were reasonable and not unduly discriminatory.[37]

38. On May 15, 2014, FERC approved NDPC's 2014 Petition, proposed rate structure, and terms of the TSAs.[38]

39. The 155,000 bpd that is reflected in the TSAs represents approximately 70 percent of the new capacity between North Dakota and Clearbrook.[39]

40. When this volume of oil is added to the 150,000 bpd that now travels along NDPC's Line 81, the combined amounts represent approximately 80 percent of the system capacity between Clearbrook and Superior.[40]

41. NDPC proposes to allocate the remaining uncommitted capacity among historical and new shippers on the NDPC System.[41]

42. If the Project is placed into service, 10 percent of the total combined volume on Line 81 and Sandpiper (approximately 44,500 bpd) will be available to new shippers – effectively doubling their access to capacity on the NDPC System.[42]

III. PROCEDURAL HISTORY BEFORE THE COMMISSION AND THE OFFICE OF ADMINISTRATIVE HEARINGS

43. On June 7, 2013, NDPC filed a Notice Plan for the Project with the Commission.[43]

---

[37] *Id.* at 8:254-9:279 (MacPhail Rebuttal).

[38] *Id.* at 7:201-203 and *North Dakota Pipeline Company LLC, supra,* at 12.

[39] Ex. 7, at 8:239-244 (Steede Direct).

[40] *Id.* at 8:239-244 (Steede Direct).

[41] *Id.* at 8:244-245 (Steede Direct).

[42] Ex. 20, at 15:434-436 (Steede Rebuttal).

[43] Ex. 37 (CN Notice Plan).

44. On June 26, 2013, the DOC-DER recommended that the Commission accept NDPC's proposed Notice Plan, subject to certain revisions.[44]

45. On July 17, 2013, NDPC provided the revisions suggested by DOC-DER, and, on July 26, 2013, DOC-DER recommended that the Commission accept the proposed Notice Plan.[45]

46. On September 11, 2013, the Commission approved the Notice Plan.[46]

47. NDPC implemented the Notice Plan between October 4 and October 17, 2013.[47]

48. On October 4, 2013, NDPC completed direct mail notice to tribal governments, towns, statutory cities, home rule charter cities, and counties whose jurisdictions were reasonably likely to be affected by the Project.[48]

49. Between October 8 and October 16, 2013, NDPC completed direct mail notice to landowners pursuant to the Notice Plan.[49]

50. Between October 10 and October 17, 2013, NDPC published notice of its intent to file a CN Application in a series of local newspapers.[50]

51. On November 8, 2013, NDPC filed applications for a CN and a pipeline route permit to construct the Project. NDPC also submitted an environmental information report (EIR) for the Project.[51]

52. On November 14, 2013, the Commission established a comment period on the completeness of the NDPC applications.[52]

53. On December 5, 2013, DOC-DER recommended that the Commission declare NDPC's applications complete upon the submission of certain information.[53]

---

[44] Comments of the Minnesota Department of Commerce, Division of Energy Resources (June 26, 2013) (eDocket No. 20136-88522-01).

[45] Ex. 38, at 1(Order Approving Notice Plan)

[46] *Id.* at 5 (Order Approving Notice Plan).

[47] Ex. 40 (Notice Plan Compliance Filing).

[48] NDPC Compliance Filing, at 90 (Dec. 15, 2013) (eDocket No. 201312-94648-02).

[49] *Id.* at 8, 61 and 84.

[50] *Id.* at 137-138.

[51] Ex. 1 (Application and EIR); MPUC Docket No. PL-6668/PPL-13-473, Application for Pipeline Routing Permit MPUC Docket No. PL-6668/PPL-13-474 (Nov. 8, 2013) (eDocket No. 201311-93532-03).

[52] Ex. 39 (Notice of Comment Period on Completeness).

[53] Comments of the DOC-DER (Dec. 5, 2013) (eDocket No. 201312-94356-01).

54. Also on December 5, 2013, Kennecott Exploration Company (Kennecott) filed a petition to intervene.[54]

55. On January 31, 2014, NDPC filed revised CN and Route Permit Applications, as well as a revised EIR (collectively, the Application). The supplemental filing indicated that the company's name had changed from Enbridge Pipelines (North Dakota) LLC to NDPC and provided information regarding modifications to the proposed route through Carlton County, Minnesota.[55]

56. On February 11, 2014, the Commission issued an Order finding NDPC's Application to be substantially complete upon supplementation. On the same date, the Commission issued an Order finding that NDPC's Route Permit Application was substantially complete. In both orders, the Commission referred the matters to the Office of Administrative Hearings (OAH) for contested case proceedings. The Commission also granted party status to NDPC, DOC-DER, and Kennecott.[56]

57. On February 27, 2014, the matter was reassigned from the Honorable Tammy L. Pust to the undersigned Administrative Law Judge (ALJ). In this same Order, a First Prehearing Conference was set for March 17, 2014.[57]

58. Between March 3 and March 13, 2014, staff from the Commission and the DOC-EERA conducted seven public information meetings on the NDPC proposal. These informational meetings occurred in six different counties along the route proposed by NDPC.[58]

59. On March 11, 2014, HTE filed a petition to intervene.[59]

60. On March 16, 2014, HTE filed a motion to dismiss NDPC's Application.[60]

61. On March 19, 2014, NDPC filed supplemental information for sections 7853.0510 and 7853.0530 of its Application.[61]

---

[54] Kennecott's Petition to Intervene (Dec. 5, 2013) (eDocket No. 201312-94358-01).

[55] Ex. 3 (Revised Application and EIR); Revised Application for Pipeline Routing Permit MPUC Docket No. PL-6668/PPL-13-474 (Jan. 31, 2014) (eDocket No. 20141-96101-01).

[56] Ex. 42 (Order Finding Application Substantially Complete Upon Supplementation and Varying Timelines; Notice of and Order for Hearing).

[57] First Prehearing Order (Feb. 27, 2014) (eDocket No. 20142-96862-01).

[58] MPUC Docket No. PL-6668/PPL-13-474, Notice of Application Acceptance and Public Information Meetings (Jan. 31, 2014) (eDocket No. 20141-96003-01).

[59] HTE's Petition to Intervene (Mar. 11, 2014) (eDocket No. 20143-97200-01).

[60] Notice of *Lis Pendens* and Motion to Dismiss for Lack of Jurisdiction (Mar. 16, 2014) (eDocket No. 20143-97361-02). It supplemented its motion with a brief, filed on April 8, 2014.

[61] Ex. 4 (Supplemental Application Information Sections 0510 and 0530).

62. On March 24, 2014, the Commission issued a letter deeming the Application complete as of March 19, 2014.[62]

63. The Commission hosted a comment period in the Route Permit proceeding from January 31, 2014, through April 4, 2014. The purpose of the comment period was to provide the public an opportunity to identify potential human and environmental impacts from the proposal and to suggest alternative routes that could be assessed in the DOC-EERA's comparative environmental analysis (CEA).[63]

64. On April 4, 2014, HTE submitted a Motion to Extend or Suspend the Current Deadlines for Alternative Routes and Add Community Public Hearings. The motion asked the Commission to schedule additional public hearings, extend the deadline for submitting comments on alternative pipeline routes, and bifurcate the CN and Route Permit proceedings.[64]

65. On April 8, 2014, the ALJ issued the Second Prehearing Order. The Second Prehearing Order granted HTE's petition to intervene and set forth a schedule and procedures for the contested case proceedings.[65]

66. On April 14, 2014, the Commission issued a notice extending the public comment period from April 4, 2014, to May 30, 2014. On the same day, the Commission denied HTE's request for additional public information meetings. Also on the same day, the Commission issued a notice of comment period on whether to separate the CN and Route Permit proceedings.[66]

67. On April 21, 2014, FOH submitted a petition to intervene in the CN proceeding.[67]

68. On April 22, 2014, the ALJ issued the Third Prehearing Order. The Third Prehearing Order established a date for oral argument on HTE's motion to dismiss and adjusted certain other dates in the schedule of proceedings.[68]

69. On May 1, 2014, WEBO submitted a petition to intervene.[69]

---

[62] Letter from the MPUC to Kevin Walli (Mar. 24, 2014) (eDocket No. 20143-97531-01).

[63] MPUC Docket No. PL-6668/PPL-13-474, Notice of Application Acceptance and Public Information Meetings (Jan. 31, 2014) (eDocket No. 20141-96003-01).

[64] MPUC Docket No. PL-6668/PPL-13-474, Motion to Extend or Suspend the Current Deadlines for Alternative Routes and Add Community Public Hearings (Apr. 4, 2014) (eDocket No. 20144-97971-01).

[65] Second Prehearing Order (Apr. 8, 2014) (eDocket No. 20144-98098-01).

[66] Ex. 43 (Notice of Comment Period on Motion to Separate Certificate of Need and Route Permit Proceedings).

[67] Statement of FOH in Support of Intervention (Apr. 21, 2014) (eDocket No. 20144-98565-01).

[68] Third Prehearing Order (Apr. 22, 2014) (eDocket No. 20144-98602-01).

[69] Petition to Intervene (May 1, 2014) (eDocket No. 20145-99115-01).

70. On May 5, 2014, the ALJ issued the Fourth Prehearing Order, which established procedures for the hearing on HTE's motion to dismiss.[70]

71. On May 7, 2014, the ALJ issued the Fifth Prehearing Order. The Fifth Prehearing Order certified to the Commission HTE's request to extend the comment period and bifurcate the proceedings.[71]

72. On May 9, 2014, the ALJ issued the Sixth Prehearing Order, which granted intervention to WEBO and FOH.[72]

73. On May 20, 2014, the ALJ issued the Seventh Prehearing Order, denying HTE's motion to dismiss NDPC's CN and Route Permit Applications.[73]

74. On May 28, 2014, the ALJ issued the Eighth Prehearing Order, which cancelled and rescheduled the next scheduling conference.[74]

75. On June 9, 2014, the ALJ issued the Ninth Prehearing Order, which suspended the deadlines set forth in the Second Prehearing Order and directed the parties to confer on a new schedule for the proceedings.[75]

76. On June 12, 2014, the Minnesota Chamber submitted a petition to intervene.[76]

77. On June 30, 2014, the Laborers submitted a petition to intervene.[77]

78. On July 7, 2014, the Commission issued an Order reaffirming its decision to extend the comment period until May 30, 2014, and denying HTE's motion to bifurcate the proceedings.[78]

79. On July 8, 2014, the ALJ issued the Tenth and Eleventh Prehearing Orders. The Tenth Prehearing Order denied HTE's request for reconsideration of the

---

[70] Fourth Prehearing Order (May 5, 2014) (eDocket No. 20145-99176-01).

[71] Fifth Prehearing Order (May 7, 2014) (eDocket No. 20145-99252-01).

[72] Sixth Prehearing Order (May 9, 2014) (eDocket No. 20145-99352-01).

[73] Seventh Prehearing Order (May 20, 2014) (eDocket No. 20145-99699-01).

[74] Eighth Prehearing Order (May 28, 2014) (eDocket No. 20145-99875-01).

[75] Ninth Prehearing Order (June 9, 2014) (eDocket No. 20146-100244-01).

[76] Chamber's Petition for Intervention (June 12, 2014) (eDocket No. 20146-100359-01).

[77] Laborers' Petition for Intervention (June 30, 2014) (eDocket No. 20146-100981-01).

[78] Ex. 44 (Order Reaffirming May 30, 2014 Comment Deadline and Denying Motion to Bifurcate Proceedings).

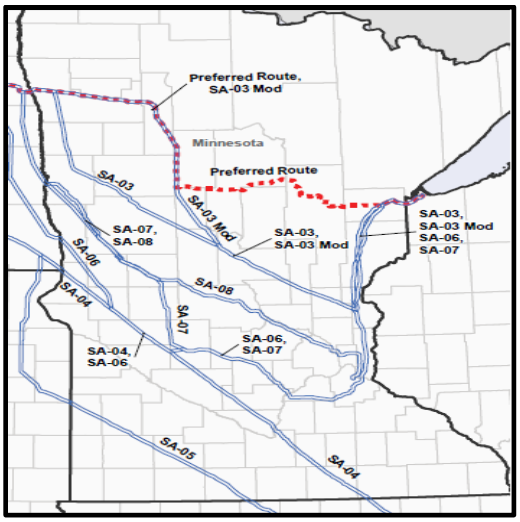
Seventh Prehearing Order. The Eleventh Prehearing Order granted intervention to the Minnesota Chamber and Laborers.[79]

80. On July 11, 2014, the ALJ issued the Twelfth and Thirteenth Prehearing Orders. The Twelfth Prehearing Order was a Protective Order governing the use and handling of certain sensitive data. The Thirteenth Prehearing Order set forth an amended schedule for the contested case proceedings and public hearings.[80]

81. On July 17, 2014, DOC-EERA filed comments and recommendations summarizing the alternative route designation process. It identified 54 route alternatives and eight System Alternatives (SA-01 through SA-08). In addition, DOC-EERA suggested a modification to SA-03 so as to create a connection with the terminal in Clearbrook, Minnesota. This alternative was denominated "SA-03, as modified" (SA-03-AM).[81]

82. DOC-EERA recommended that the Commission consider the 53 route alternatives. DOC-EERA further recommended that the Commission not consider the eight system alternatives because "they do not meet the purpose of the project as identified in the permit application and are, therefore, not alternative routes for accomplishing the purpose of the project."[82]

83. The System Alternatives make different cross-sections of Minnesota:[83]



[79] Tenth Prehearing Order (July 8, 2014) (eDocket No. 20147-101294-01); Eleventh Prehearing Order (July 8, 2014) (eDocket No. 20147-101295-01).

[80] Twelfth Prehearing Order (July 11, 2014) (eDocket No. 20147-101387-01); Thirteenth Prehearing Order (July 11, 2014) (eDocket No. 20147-101390-01).

[81] MPUC Docket No. PL-6668/PPL-13-474, Comments and Recommendations of DOC-EERA Staff (July 17, 2014) (eDocket No. 20147-101573-01) (Staff Comments).

[82] Ex. 80, at 19 (EERA Report); *see also* Evid. Hr'g Tr. Vol. 7, at 245:17-18 (Pile). ("None of the system alternatives were recommended to go into routing.").

[83] Ex. 17, Schedule 1, Figure 1 (Eberth Direct).

84. On August 7, 2014, the Commission met to consider which route alternatives would be accepted for further consideration in the CEA and the Route Permit Application public hearings.[84]

85. On August 8, 2014, NDPC filed the direct testimony of the following individuals: Neil Earnest; A.J. Johnson; Robert Steede; Paul Eberth; Art Haskins; William Rennicke; John Glanzer; Michael Palmer; Dr. Richard Lichty; Barry Simonson; and Sara Ploetz.[85]

86. On August 12, 2014, the ALJ issued the Fourteenth Prehearing Order, which clarified several deadlines set forth in the Thirteenth Prehearing Order.[86]

87. On August 12, 2014, the Commission issued a notice providing for an additional 14-day comment period concerning review of the eight System Alternatives. [87]

88. On August 25, 2014, the Commission issued its Order Accepting Alternative Route and System Alternatives for Evidentiary Development, Requiring Notice, and Setting Procedures (August 2014 Order). In that order, the Commission accepted the 53 route alternatives recommended by DOC-EERA, as well as SA-03, as modified, for consideration in the Route Permit contested case hearing. The Commission also directed NDPC to prepare a "pipeline safety report" to be filed with direct testimony in the Route Permit proceeding.[88]

89. On August 26, 2014, the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada (the UA) submitted a petition to intervene.[89]

90. On August 27, 2014, the North Dakota Chamber submitted a petition to intervene.[90]

91. On August 29, 2014, Carlton County Land Stewards submitted a petition to intervene.[91]

---

[84] MPUC Docket No. PL-6668/PPL-13-474, Notice of Commission Meeting (eDocket No. 20147-101743-02).

[85] Ex. 6 (Eberth Direct); Ex. 7 (Steede Direct); Ex. 8 (Glanzer Direct); Ex. 9 (Simonson Direct); Ex. 10 (Johnson Direct); Ex. 11 (Ploetz Direct); Ex. 12 (Haskins Direct); Ex. 13 (Palmer Direct); Ex. 14 (Earnest Direct); Ex. 15 (Rennicke Direct); and Ex. 16 (Lichty Direct).

[86] Fourteenth Prehearing Order (Aug. 12, 2014) (eDocket No. 20148-102215-01).

[87] Notice of Comment Period (Aug. 12, 2014) (eDocket No. 20148-102195-01).

[88] Ex. 46 (Order Accepting Alternative Route and System Alternatives for Evidentiary Development, Requiring Notice, and Setting Procedures).

[89] UA's Petition to Intervene (Aug. 26, 2014) (eDocket No. 20148-102526-01).

[90] The North Dakota Chamber's Petition to Intervene (Aug. 27, 2014) (eDocket No. 20148-102583-01).

[91] CCLS' Petition to Intervene (Aug. 29, 2014) (eDocket No. 20148-102617-01).

92. On September 4, 2014, the ALJ issued the Fifteenth Prehearing Order, which set a prehearing status and scheduling conference.[92]

93. On September 9, 2014, the ALJ issued the Sixteenth Prehearing Order, granting intervention to the UA, the North Dakota Chamber, and CCLS.[93]

94. On September 11, 2014, the Commission met to consider the additional comments it received regarding system alternatives SA-01 through SA-08. At that meeting, the Commission bifurcated the CN and Routing proceedings.[94]

95. On September 19, 2014, the ALJ issued the Seventeenth Prehearing Order, which cancelled all deadlines in the Route Permit proceedings, set forth amended deadlines for the CN proceeding, and established other procedures for the CN proceeding.[95]

96. On October 7, 2014, the Commission issued a written order resulting from its September 11, 2014 meeting (October 2014 Order). The Commission separated the CN proceeding from the Route Permit proceeding and postponed action on the Route Permit Application until the Commission made a decision on the CN Application. In addition, the Commission authorized environmental review of six System Alternatives (SA-03, SA-04, SA-05, SA-06, SA-07 and SA-08). The Commission requested that DOC-EERA staff complete the environmental review prior to the contested case hearings in the CN docket.[96]

97. On October 15, 2014, NDPC submitted a petition for the creation of a separate docket for the filing of highly sensitive nonpublic data. It likewise requested a protective order governing the use, handling and disclosure of these materials.[97]

98. On October 27, 2014, NDPC, FOH, and the UA each submitted petitions for reconsideration of the Commission's October 2014 Order.[98]

99. On October 30, 2014, the Commission held a meeting at which it addressed the parties' petitions for reconsideration of the August 2014 Order.[99]

---

[92] Fifteenth Prehearing Order (Sept. 4, 2014) (eDocket No. 20149-102868-01).

[93] Sixteenth Prehearing Order (Sept. 9, 2014) (eDocket No. 20149-102950-01).

[94] Ex. 47 (Notice of Commission Meeting).

[95] Seventeenth Prehearing Order (Sept. 19, 2014) (eDocket No. 20149-103165-01).

[96] Ex. 48 (Order Separating Certificate of Need and Route Permit Proceedings and Requiring Environmental Review of System Alternatives).

[97] NDPC's Petition for a Separate Docket and Protective Order for Highly Sensitive Nonpublic Data (Oct. 15, 2014) (eDocket No. 201410-103862-01).

[98] NDPC's Petition for Reconsideration of the Commission's Oct. 7, 2014 Order (Oct. 27, 2014) (eDocket No. 201410-104166-01); Seven Letters from Minnesota Members of the UA (Oct. 27, 2014) (eDocket No. 201410-104174-01); Friends of the Headwaters' Petition for Reconsideration and Amendment of the Commission's October 7, 2014 Order (Oct. 27, 2014) (eDocket No. 201410-104176-01).

100. On November 5, 2014, the ALJ issued the Eighteenth Prehearing Order, which granted NDPC's petition for a separate docket and protective order for highly sensitive nonpublic data.[100]

101. On November 6, 2014, NDPC, CCLS, HTE, FOH, and WEBO submitted responses to the October 27, 2014, petitions for reconsideration.[101]

102. On November 7, 2014, the Commission issued an order denying the parties' petitions for reconsideration of the August 2014 Order.[102]

103. On November 19, 2014, the following parties submitted direct testimony: the Minnesota Chamber; the North Dakota Chamber; CCLS; DOC-DER; FOH; THE; UA; and the Laborers.[103]

104. On December 1, 2014, HTE submitted a Request for PUC to Modify CN Calendar Milestones to the Commission.[104]

105. On December 4, 2014, the Commission held a meeting at which it addressed the parties' petitions for reconsideration of the October 2014 Order.[105]

106. On December 5, 2014, the Commission issued an order denying parties' petitions for reconsideration of the October 2014 Order.[106]

107. On December 15, 2014, the Commission published in the *State Register* a Notice of Filing and Comment Period. The notice provided that public hearings on NDPC's Application for the Project would be held between January 5 and January 9,

---

[99] Ex. 49 (Notice of Commission Meeting).

[100] Eighteenth Prehearing Order (Protective Order) (Nov. 5, 2014) (eDocket No. 201411-104464-01).

[101] CCLS Response to Request for Reconsideration (Nov. 6, 2014) (E-Dockets Document Number 201411-104498-01); NDPC's Response in Opposition to FOH's Petition for Reconsideration and Amendment of the Commission's October 7, 2014 Order (Nov. 6, 2014) (E-Dockets Document Number 201411-104489-01); FOH's Response to NDPC's Petition for Reconsideration of the Commission's October 7, 2014 Order (Nov. 6, 2014) (eDocket No. 201411-104485-01); HTE's Response to Motions for Reconsideration of NDPC's Petition for Reconsideration of the Commission's October 7, 2014 Order (Nov. 6, 2014) (eDocket No. 201411-104509-02); Chamber's Comments on the Requests for Reconsideration (Nov. 6, 2014) (eDocket No. 201411-104490-01); WEBO's Response to Petition for Reconsideration (Nov. 7, 2014) (eDocket No. 201411-104532-01); Laborers' Response to NDPC Petition for Reconsideration of Order (Nov. 7, 2014) (eDocket No. 201411-104508-01).

[102] Ex. 100 (Order Denying Reconsideration and Clarifying Procedural Posture).

[103] Exs. 50-52 (Heinen Direct); Ex. 110 (Chapman Direct); Ex. 130 (LaDuke Direct); Ex. 180 (Stolen Direct); Ex. 181 (Smith Direct); Ex. 200 (Blazar Direct); Ex. 201 (Younggren Direct); Ex. 210 (Olson Direct); Ex. 211 (Engen Direct); Ex. 212 (Duncombe Direct); Ex. 220 (Barnett Direct); Ex. 230 (Herauf Direct).

[104] HTE's Motion to Expand the Time Allotted for Milestones for the Schedule Established by the Seventeenth Prehearing Order dated Sept. 19, 2014 (Dec. 1, 2014) (eDocket No. 201412-105064-02).

[105] Notice of Commission Meeting (Nov. 21, 2014) (eDocket No. 201411-104822-23).

[106] Ex. 101 (Order Denying Reconsideration).

2015, in five regional centers: St. Paul, Duluth, Bemidji, Crookston, and St. Cloud. The notice further provided that interested persons could submit written comments on the Project through 4:30 p.m. on January 23, 2015.[107]

108. On December 17, 2014, the Commission referred HTE's Request for PUC to Modify CN Calendar of Milestones to the ALJ.[108]

109. On December 18, 2014, DOC-EERA filed the Comparison of Environmental Effects of Reasonable Alternatives (the EERA Report), along with related maps and appendices. The EERA Report analyzed the environmental features present in a two-mile wide Study Area for SA-03 through SA-08 and the Preferred Route.[109]

110. Also on December 18, 2014, FOH filed a Request for Continuance asking the ALJ to modify the schedule for the CN proceedings. WEBO and CCLS submitted similar requests on December 24 and December 29, respectively. NDPC submitted a response in opposition to the requests on December 29, 2014.[110]

111. On January 2, 2015, the ALJ issued the Nineteenth Prehearing Order, which denied the requests for a continuance.[111]

112. On January 5, 6, 7, 9, and 12, the ALJ presided over public hearings in St. Paul, Duluth, Bemidji, St. Cloud, and Crookston.[112]

113. On January 5, 2015, NDPC filed its rebuttal testimony. Included in NDPC's rebuttal testimony was its environmental and engineering analysis of two-mile wide corridors (the Study Areas) for each System Alternative, SA-03, as modified, and the Preferred Route.[113]

114. On January 6, 2015, DOC-DER filed rebuttal testimony.[114]

115. On January 7, 2015, CCLS and HTE filed rebuttal testimony.[115]

---

[107] Ex. 104 (Notice in State Register).

[108] Letter to the Honorable Eric L. Lipman Regarding HTE's Motion (Dec. 17, 2014) (eDocket No. 201412-105478-02).

[109] Ex. 80 (EERA Report).

[110] FOH's Request for Continuance (Dec. 18, 2014) (eDocket No. 201412-105533-02).

[111] Nineteenth Prehearing Order, at 5-6 (Jan. 2, 2015) (eDocket No. 20151-105869-01).

[112] *See* Bemidji Tr.; Crookston Tr.; Dulth Tr.; St. Cloud Tr.; St. Paul Tr.

[113] Ex. 17 (Eberth Rebuttal); Ex. 18 (Earnest Rebuttal); Ex. 19 (Glanzer Rebuttal); Ex. 20 (Steede Rebuttal); Ex. 21 (MacPhail Rebuttal); Ex. 22 (Palmer Rebuttal); Ex. 23 (Simonson Rebuttal); Ex. 24 (Trade Secret Simonson Rebuttal); Ex. 25 (Haskins Rebuttal); Ex. 26 (Baumgartner Rebuttal); Ex. 27 (Ploetz Rebuttal); Ex. 28 (Wuolo Rebuttal); and Ex. 29 (Rennicke Rebuttal).

[114] Ex. 53 (Heinen Rebuttal).

[115] Ex. 111 (Chapman Rebuttal); Ex. 131 (LaDuke Rebuttal).

116. On January 15, 2015, FOH submitted a series of subpoena requests. FOH sought to compel certain officials of the Minnesota Pollution Control Agency (MPCA) and the Minnesota Department of Natural Resources (MDNR) to attend the evidentiary hearing and render expert testimony.[116]

117. On January 16, 2015, the ALJ issued the Twentieth Prehearing Order. This Order denied the subpoena requests without prejudice to refiling.[117]

118. The following parties filed surrebuttal testimony on January 21, 2015: NDPC, FOH, CCLS, and DOC-DER.[118]

119. On January 22, 2015, FOH submitted the sworn testimony of certain MDNR and MPCA officials.[119]

120. Between January 27 and January 30, 2015, the ALJ held evidentiary hearings in St. Paul, Minnesota.[120]

---

[116] Requests for Subpoenas to be Served on Employees of the MPCA filed on behalf of the FOH (Jan. 15, 2015) (E-Docket Document No. 20151-106203-01); Requests for Subpoenas to be Served on Employees of the MDNR filed on Behalf of the FOH (Jan. 15, 2015) (E-Docket Document No. 20151-106253-01); *see also,* Minn. R. 1400.7000, subp. 1 (2013) ("Requests for subpoenas for the attendance of witnesses or the production of documents, either at a hearing or for the purpose of discovery, shall be made in writing to the judge, shall contain a brief statement demonstrating the potential relevance of the testimony or evidence sought, shall identify any documents sought with specificity, shall include the full name and home or business address of all persons to be subpoenaed and, if known, the date, time, and place for responding to the subpoena.").

[117] Twentieth Prehearing Order (Jan. 16, 2015) (eDocket No. 20151-106270-01); The Administrative Law Judge concluded that FOH's requests were not clear. The requests did not demonstrate that it was necessary, or just, to compel an unwilling expert to testify in this matter. Additionally, it was not clear from the phrasing of the requests whether FOH would satisfy the requirement that expert testimony be filed in advance of the hearing. The Administrative Law Judge permitted resubmission of the requests if these matters could be shown. *See* Second Prehearing Order and Seventeenth Prehearing Order; *Kaufman v. Edelstein*, 539 F.2d 811, 822 (2d Cir. 1976) (An order compelling an expert to render opinion testimony at trial may be appropriate in cases in which the witness is a unique expert; it is unlikely that any comparable witness will willingly testify; the sought-after testimony is a previously formed or expressed opinion; and, there is small likelihood that the witness will be later asked to testify in similar matters); *accord, Mitzel v. Employers Ins. of Wausau*, 878 F.2d 233, 235 (8th Cir. 1989).

[118] Ex. 183 (Smith Surrebuttal); Ex. 30 (Crane Surrebuttal); Ex. 184 (Stolen Surrebuttal); Ex. 31 (Earnest Surrebuttal); Ex. 112 (Chapman Surrebuttal); Ex. 54 (Heinen Surrebuttal); Ex. 182 (Reddy Surrebuttal).

[119] MDNR also made an agency representative available for questions at the evidentiary hearing; MPCA declined to do so. Testimony of Scott Lucas, MPCA (Jan. 22, 2015) (eDocket No. 20151-106473-01); Ex. 185 (Schrenzel Direct); Testimony of Nathan Kestner, MDNR (Jan. 22, 2015) (eDocket No. 20151-106470-01); Testimony of Stephen Lee, MPCA (Jan. 22, 2015) (eDocket No. 20151-106473-02); Testimony of Bill Sierks, MPCA (Jan. 22, 2015) (eDocket No. 20151-106473-03); MPCA's Response to Subpoena from FOH (Jan. 22, 2015) (eDocket No. 20151-106470-03).

[120] Evidentiary Hearing Transcripts, Volumes 1 - 7.

IV. PROJECT DESCRIPTION

121. The Project consists of a pipeline and associated facilities that will transport crude oil from NDPC's Beaver Lodge Station, south of Tioga, North Dakota, to Clearbrook, Minnesota, and then on to an existing Enbridge terminal in Superior, Wisconsin.[121]

122. The Project is approximately 616 miles long. NDPC proposes to construct a 24-inch diameter pipe for the approximately 300 mile route in North Dakota. It further proposes to construct 24-inch diameter pipe across the 73-mile distance between the North Dakota border and Clearbrook, Minnesota, and to run a 30-inch diameter pipe the 229 miles between the Clearbrook Terminal and the Wisconsin border. Lastly, NDPC proposes to extend this same 30-inch pipe across the 14 miles from the edge of the Wisconsin border to the Superior terminal.[122]

123. The North Dakota portion of the Sandpiper Project has already been approved by the North Dakota Public Service Commission.[123]

124. NDPC also proposes construction of a new Clearbrook West Terminal and additional facilities at Pine River, Minnesota.[124]

125. The proposed Clearbrook West Terminal would be sited approximately 3.8 miles west of the existing Enbridge Clearbrook Terminal, and include:

(a) Two storage tanks;

(b) Two sets of receiver and launch traps;

(c) Two 450 horse power (HP) injection pumps;

(d) One 300 HP transfer pump;

(e) A pump station, including four 5,500 HP pumps with four variable frequency drives, a 24-inch Pipeline Inspection Gauge (PIG) receiver, a 30-inch PIG launcher, and association pump station piping and valves;

(f) Associated terminal piping, interconnections, valves, manifold, and sumps;

(g) A fire suppression system;

(h) Maintenance, pump shelter, and cold storage buildings;

(i) Metering equipment; and

---

[121] Ex. 1, Application Summary, at 1 (CN Application).

[122] Ex. 3, Part 7853.0230, at 1 (Revised CN Application).

[123] Evid. Hr'g Tr. Vol. 3, at 103:24 - 104:3 (Steede).

[124] Ex. 6, at 2:51-59 (Eberth Direct).

(j) Power and communications equipment.[125]

126. The proposed facilities in Pine River, Minnesota, include a receiver and launcher trap, Coriolis metering equipment, and an electrical service building.[126]

127. Today, some of the stocks of light crude oil that are purchased and refined by Minnesota's two oil refineries are transported from North Dakota along Enbridge's Line 81. As noted above, Line 81 transports oil to the Clearbrook Terminal, which is a connection point to the MPL system.[127]

128. From the proposed Clearbrook West Terminal, barrels of crude oil would be received into tankage and could be routed south on the MPL System or re-injected for further transportation east to Superior, Wisconsin.[128]

129. The Project will have the capacity to transport 225,000 barrels bpd of crude oil from North Dakota to Clearbrook, Minnesota.[129]

130. With the addition of oil stocks from Line 81, the project would have a total annual capacity of 375,000 bpd from Clearbrook, Minnesota to Superior, Wisconsin.[130]

131. NDPC determined that a 30-inch pipe from Clearbrook to Superior would allow for the transportation of these combined volumes of oil – specifically, the oil sent from the Beaver Lodge Station to the Clearbrook Terminal, plus oil shipments from Line 81, minus any quantities that are sent south of Clearbrook on the MPL.[131]

132. Likewise, in the event of an outage on either Line 81 or the Sandpiper Line, shipments of oil could proceed from North Dakota to Clearbrook on the other, operating pipeline.[132]

133. NDPC proposes constructing the Project along the route NDPC submitted with its January 31, 2014 Revised Pipeline Routing Permit Application, as revised by its later route alternative filings. NDPC submitted Route Alternative filings on April 4, May 30, and June 27, 2014. In combination, these proposals comprise NDPC's Preferred Route.[133]

---

[125] Ex. 10, at 3:86 - 4:125 (Johnson Direct).

[126] Ex. 10, at 4:122-25 (Johnson Direct).

[127] Ex. 8, at 4:137-140 and 6:160-165 (Glanzer Direct).

[128] Ex. 3, Part 7853.0240, at 2 (Revised CN Application); Ex. 8, at 4:125-129 and 6:160-165 (Glanzer Direct).

[129] Ex. 6, at 2:62-65 (Eberth Direct).

[130] *Id*.

[131] Ex. 8, at 4:133-5:144 (Glanzer Direct).

[132] *Id*. at 6:163-165 (Glanzer Direct).

[133] Ex. 17, Schedule 1, at 181 (Eberth Rebuttal).

V. APPLYING THE CRITERIA OF MINN. R. 7853.0130

134. Minn. Stat. § 216B.243 governs the issuance of CNs for large energy facilities, including crude oil pipelines. Under Minnesota law, a "large energy facility" may not be sited or constructed without a CN from the Commission.[134]

135. Minn. Stat. § 216B.243, subd. 1, further directs the Commission to "adopt assessment of need criteria to be used in the determination of need for large energy facilities …."[135]

136. The criteria that the Commission promulgated are found in Minn. R. 7853.0130.[136]

137. Because NDPC proposes to construct a new pipeline "greater than six inches in diameter and having more than 50 miles of its length in Minnesota used for the transportation of … crude petroleum or petroleum fuels or oil," a Certificate of Need is required for the project.[137]

138. Under Minn. R. 7853.0130, review of a Certificate of Need application involves inquiries into four key areas – namely, whether:

> (a) the probable result of denial would adversely affect the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states;
>
> (b) a more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record by parties or persons other than the applicant;
>
> (c) the consequences to society of granting the certificate of need are more favorable than the consequences of denying the certificate; and
>
> (d) it has not been demonstrated on the record that the design, construction, or operation of the proposed facility will fail to comply with those relevant policies, rules, and regulations of other state and federal agencies and local governments.

---

[134] Minn. Stat. § 216B.243, subds. 1, 2, 3; *see also,* Minn. R. 7853.0030 (2013).

[135] Minn. Stat. § 216B.243, subd. 1.

[136] *See* Minn. R. 7853.0020 (2013) (The purpose of this chapter is to specify the contents of applications for certificates of need and to specify criteria for assessment of need for large oil and LPG storage facilities, large petroleum pipelines, and oil refineries for petroleum suppliers pursuant to Minnesota Statutes, section 216B.243.).

[137] *Id;* Minn. Stat. § 216B.2421, subd 2(4) (2014).

Additionally, within each of these broad areas, there are distinct sub-issues that the regulation obliges the Commission to address.[138]

A. The Probable Result of Denial of the Application Would Adversely Affect the Future Adequacy, Reliability or Efficiency of Energy Supply to the Applicant, to the Applicant's Customers, or to the People of Minnesota and Neighboring States.

139. When assessing whether denying the Applicant's request for a Certificate of Need will adversely affect the future adequacy, reliability or efficiency of the energy supply, the Commission considers a number of sub-factors:

(a) The accuracy of NDPC's forecast of demand for the type of energy that would be supplied by the proposed facility;

(b) The effects of NDPC's existing or expected conservation programs and state and federal conservation programs;

(c) The effects of NDPC's promotional practices that may have given rise to the increase in the energy demand;

(d) The ability of current facilities and planned facilities not requiring certificates of need, and to which NDPC has access, to meet the future demand; and

(e) The effect of the proposed facility, or a suitable modification of it, in making efficient use of resources.[139]

Each of these sub-factors is addressed, in turn, in the Findings below.

1. The accuracy of the Applicant's forecast of demand.

(a) What the Applicant's forecasts show

140. NDPC assessed three forecasts of North Dakota-produced crude oil supply in its evaluation of future pipeline capacity needs.[140]

141. It calculated the volume of crude oil that will be available for transportation on the NDPC System using a "base case" estimate and a "high case" estimate of oil

[138] Minn. R. 7853.0130, subps. A, B, C, D.

[139] Minn. R. 7853.0130 (A).

[140] Ex. 14, Schedule 2, at 7 (Earnest Direct).

production prepared by the North Dakota Pipeline Authority. NDPC also developed its own oil production forecast.[141]

142. All three forecasts show steady increases in North Dakota oil production over the next five years, followed by a sustained period of high production.[142]

143. NDPC asserts that the supply of North American light crude oil will grow over the course of the next decade, and then remain well above historical levels for the twenty-year forecast period. NDPC likewise maintains that technological advances in methods of extracting oil have made previously unavailable oil stocks accessible to petroleum producers and boosted the amounts of extraction that is occurring in the Upper Midwest.[143]

144. Additionally, NDPC asserts that crude oil prices are likely to increase in the near-term – and that this view is shared by the broader oil industry.[144]

145. NDPC argues that its forecasts detail the utility and viability of the proposed Project because:

(a) the additional pipeline (or "take-away") capacity added by the proposed Project is a fraction of the overall forecasted increase in production from the Williston Basin over the next 15 years;

(b) the cost-per-barrel of transporting oil by its pipeline is lower than competing methods of transportation;

(c) the proposed pipeline would carry about 25 percent of the total estimated light crude oil that is transported by its shipping clients to refiners in the Midwest, Ontario, and Quebec; and

(d) the Project will operate at, or close to, capacity throughout the 2016 - 2035 forecast period.[145]

i. Production of additional Bakken oil stocks

146. The Williston Basin, which includes the Bakken and Three Forks formations, is one of the major sources of "unconventional crude oil" in the United

---

[141] *Id*. (Earnest Direct).

[142] *Id*. at 7 and 27 (Earnest Direct).

[143] Ex. 3, Part 7853.0240, at 3-4 (Revised CN Application); Ex. 14, Schedule 2, at 7 and 27 (Earnest Direct).

[144] Ex. 31, at 2:45-46 (Earnest Surrebuttal).

[145] Ex. 3, Part 7853.0240, at 4-5 (Revised CN Application); Ex. 14, at 7:142-44 (Earnest Direct); Ex. 14, Schedule 2, at 8 and 49 (Earnest Direct); Ex. 15, Schedule 2, at 13 (Rennicke Direct); *see also,* Ex. 54 at 52 (Heinen Surrebuttal).

States. Unconventional oil is oil that cannot be pumped as a liquid in its natural state, but rather must be heated or diluted in order to be extracted.[146]

147. The United States Geological Survey (USGS) estimates that the Three Forks formation holds about 3.73 billion barrels of technically-recoverable crude oil and that the Bakken formation holds an additional 3.65 billion barrels of technically-recoverable crude oil. This 2013 combined estimate almost doubles the initial assessment of recoverable oil that the USGS made in 2008.[147]

148. According to the United States Energy Information Administration, United States crude oil production increased from 5,652 thousand barrels per day (kbpd) in 2011 to 6,488 kbpd in July 2013. At the same time, United States crude oil reserves increased from 25.2 billion barrels in 2010 to 29.0 billion barrels in 2011.[148]

149. Moreover, crude oil production has been rising in the Williston Basin which ranks as one of the largest oil producing areas in the world.[149]

ii. Additional refining capacity

150. Minnesota is one of 15 states within Petroleum Area Defense District, Number Two (Padd 2).[150]

151. Refiners in Padd 2 are using large volumes of light, sweet crude oil to make refined products.[151]

152. As crude oil production within the United States has increased, Midwestern refiners have reduced their purchases of foreign crude oil that is shipped from the Gulf Coast. Instead, these refiners have increasingly favored obtaining their oil supplies from North American sources.[152]

153. A number of refiners in Padd 2, such as Marathon, have expanded refining operations and increased their demand for crude oil.[153]

154. The estimated demand for light, sweet crude oil in various sub-markets of the United States is as follows:

---

[146] *Id*.

[147] *Id*.

[148] Ex. 3, Part 7853.0240, at 3 (Revised CN Application).

[149] Ex. 14, Schedule 2, at 26 (Earnest Direct).

[150] The states assigned to PADD 2 by the U.S. Energy Information Administration are: Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Ohio, Oklahoma, Tennessee and Wisconsin. *See* Ex. 3, Part 7853.0240, at 6-8 (Revised CN Application).

[151] Ex. 14, Schedule 2, at 11-13 and Figure 4 (Earnest Direct).

[152] *Id.* at 11 (Earnest Direct); Ex. 13, at 9:238-245 (Palmer Direct).

[153] Ex. 14, Schedule 2, at 14-15 (Earnest Direct).

Submarket	Estimated Crude Oil Demand (kb/d)
Upper Midwest	550 - 650
Lower Midwest	700 - 900
Ontario and Quebec	250 - 350
Mid-Continent	700
Gulf Coast	2,000.[154]

155. Neil Earnest testified credibly that demand for light crude oil among refineries in the Upper Midwest, Lower Midwest, Ontario, Quebec, and the East Coast of the United States exceeds available supply.[155]

156. NDPC's shipping clients could send oil supplies to refineries in the Upper Midwest, Lower Midwest, and Ontario-Quebec markets through the Enbridge Mainline System. Additionally, by way of interconnections between the Enbridge Mainline System and the Flanagan South and Spearhead pipelines, NDPC's clients could, in the future, send crude oil to refineries in the Midcontinent and Gulf Coast markets.[156]

(b) The forecast at different price points for crude oil

157. NDPC's forecast analysis assessed prices for West Texas Intermediate (WTI) crude oil ranging from as low as $10 per barrel to as high as $120 per barrel.[157]

158. The WTI crude oil price is a "reference" crude oil price that is commonly used by those in the oil industry in the United States and Canada. As Steven D. Crane of Crane Energy LLC, explained at the evidentiary hearing, the WTI oil price is a "clear, transparent price" that can be quickly correlated to the price for oil in other places and markets across the globe.[158]

159. NDPC's modeling also assessed other factors that could impact the economic viability of the Project, including: the takeaway capacity of competing pipelines and rail transportation alternatives; tolls and other transportation costs; and available refining capacity.[159]

---

[154] *Id.* at 5:88-89 (Earnest Direct).

[155] *Id.* at Schedule 2, at 11-12 and Figure 4 (Earnest Direct).

[156] *Id.* at Schedule 2, at 12-13 and Figure 5 (Earnest Direct).

[157] Ex. 30, at 5:125-127 (Crane Surrebuttal).

[158] Evid. Hr'g Tr. Vol. 2 at 11:17 – 13:1 (Crane).

[159] Ex. 14, Schedule 2, Appendix 1, at 56-57 (Earnest Direct).

160. NDPC's sensitivity analysis for the year 2019 concluded that the Project would be fully utilized under a number of differing crude oil supply scenarios and a lower rail transportation cost scenario.[160]

161. This range of cost assessments is important because while NDPC maintains that the current North Dakota production levels will be maintained when oil prices are between $70 and $80 per barrel WTI (using the historical adjustments to account for the price of oil at the wellhead), it is unlikely that this will be the reference oil price during the near term.[161]

162. During the evidentiary hearing, the WTI price per barrel was $46 per barrel.[162]

163. In this context, a key finding of the NDPC analysis becomes all the more important. The NDPC analysis shows that even at sustained prices as low as $40 per barrel, North Dakota production rates would remain above 700,000 bpd for the majority of the next 15 years and the proposed pipeline will be filled to capacity until late in the forecast period.[163]

(c) Replicability of the forecast analyses

164. DOC-DER reviewed the assumptions and inputs of NDPC's forecasts of additional production and transportation needs, and generally concurred with NDPC's projections.[164]

165. Additionally, Adam Heinen, a Public Utilities Rates Analyst with the Minnesota Department of Commerce, undertook his own research on "petroleum industry information relating to pipeline, government statistics and petroleum-related general market dynamics." Mr. Heinen testified:

> (a) Based on developments in unconventional crude oil exploration and development, the 2014 AEO reference or base case predicts steady increases in domestic crude oil supply through 2020 before slowly decreasing until the end of the forecasting period, which extends to 2040. Despite the decrease in crude oil supply in the later part of the forecasting period, expected total production is expected to be somewhat greater than current production levels under the reference case, lower than current levels if oil and gas resources decline, and significantly greater than current production levels if there are high levels of oil and gas resources.

---

[160] *Id.* at Schedule 2, at 8 (Earnest Direct).

[161] *See* Ex. 30, at 8:203-206 (Crane Surrebuttal); Evid. Hr'g Tr. Vol. 2 at 9:19 – 10:21 (Crane).

[162] Evid. Hr'g Tr. Vol. 2 at 10:17–21 (Crane).

[163] Ex. 30, at 9:207-210 (Crane Surrebuttal); Ex. 31, at 3:74-4:79 (Earnest Surrebuttal).

[164] *See* Ex. 50, at 46:1-11, 89:21-23 and 90:11-13 (Heinen Direct).

> (b) [I]t would appear unlikely that average WTI prices would remain in the $40 range over the next 30 years. The drop in crude oil prices that began in the summer of 2014 is the result of many interrelated factors: below forecasted growth in the developing world and parts of Europe (i.e., decreased demand), increased supply from unconventional oil plays (e.g., U.S. shale production), and attempts to maintain global market share by certain members of the Organization of Petroleum Exporting Countries (OPEC). It is unlikely that these market dynamics and influences will remain in place over the long run.[165]

166. Likewise important, while Mr. Heinen maintained that the overall level of domestic crude oil demand will remain relatively constant for many years to come, the mix of oil that is demanded during that period will change significantly. Mr. Heinen agrees with NDPC that domestically produced oil will make up an increasing share of oil supplies for American refiners, displacing stocks of "imported supplies from other parts of the world."[166]

(d) Assessment of prices and demand

167. Companies in the oil industry undertake capital-intensive ventures with an eye toward long-term prices of oil and related inputs.[167]

168. Notwithstanding a series of abrupt, sizable price fluctuations in crude oil prices since 1995, United States crude oil production has generally remained constant, or increased, over the last 20 years.[168]

169. The drop in oil prices that occurred around the time of the evidentiary hearing was significant, but it was not the largest change in price or the lowest price point for WTI in recent years.[169]

170. It is unlikely that the market conditions which produced WTI oil prices of $46 per barrel will persist.[170]

171. Even if one assumes historically low prices for oil, in the near-term there will be sufficient crude oil supplies in North Dakota to fully utilize the existing and proposed pipelines, and thousands of rail cars each year.[171]

---

[165] Ex. 50, at 4:4-6 and 12:4-12 (Heinen Direct); Ex. 54, at 52:1-8 (Heinen Surrebuttal).

[166] Ex. 50, at 16:14-18 (Heinen Direct); Ex. 54, at 53:5-7 (Heinen Surrebuttal).

[167] Evid. Hr'g Tr. Vol. 2 at 12:3–7 and 16:15-21 (Crane).

[168] Ex. 31, at 1:17-2:42 (Earnest Surrebuttal).

[169] *Id.* at 1:24-2:31 (Earnest Surrebuttal); Evid. Hr'g Tr. Vol. 2 at 12:3–7 and 16:15-21 (Crane);

[170] Ex. 18 at 8:221 – 10:256 (Earnest Rebuttal); Ex. 54, at 52:1-8 (Heinen Surrebuttal).

[171] Ex. 14, Schedule 2 at 6-7 (Earnest Direct).

172. Because NDPC has received long-term, ship-or-pay commitments for transportation of the annualized equivalent of 155,000 bpd, and received these commitments during arms-length transactions that were reviewed by FERC, these contracts are a strong signal of the commercial viability of the Project.[172]

173. The best reading of the hearing record is that the recent lower oil prices will not sharply reduce Bakken crude oil production or the oil transportation markets that the Project would serve.[173]

2. The effects of conservation programs

174. NDPC drew upon the 2012 Quadrennial Report, authored by DOC-DER (2012 Quad Report), as part of its analysis of the relationship between the Project and the state's overall energy needs.[174]

175. The 2012 Quad Report notes that gasoline (net of ethanol) is slightly more than 50 percent of total petroleum demand in Minnesota, followed in volume by distillate (primarily diesel fuel).[175]

176. The 2012 Quad Report discusses a number of fuel replacement programs at the state and federal levels, including Minnesota's nation-leading efforts on ethanol and biodiesel utilization.[176]

177. The 2012 Quad Report also highlights that there are approximately 50 publicly-accessible electric vehicle charging stations in Minnesota.[177]

178. The 2012 Quad Report does not provide quantitative estimates of how existing and proposed conservation measures will impact future demand for petroleum products in Minnesota, but it is clear that the these programs will not eliminate Minnesota's near-term need for petroleum products.[178]

179. As a transportation company, NDPC does not buy or sell crude oil. It ships these materials to markets where they can be refined.[179]

---

[172] *See* Ex. 21, at 8:245-246 (MacPhail Rebuttal); Ex. 50, at 8:6-8 and Schedule AJH3 (Heinen Direct).

[173] Ex. 18, at 8:221-24 (Earnest Rebuttal); Ex. 30, at 9:207 – 10:244 (Crane Surrebuttal).

[174] Ex. 14, Schedule 2, at 20-24 (Earnest Direct).

[175] *Id.* at Schedule 2, at 21 (Earnest Direct).

[176] *Id.* at Schedule 2, at 22 (Earnest Direct).

[177] *Id.* at Schedule 2, at 23 (Earnest Direct).

[178] *Id.* at Schedule 2, at 23-24 (Earnest Direct).

[179] Ex. 50, at 46: 13-17 (Heinen Direct); Evid. Hr'g Tr. Vol. 1, at 45:13 – 46:22 (Eberth).

180. NDPC's operations transporting crude oil do not, in and of themselves, result in demand for large stocks of crude oil.[180]

181. However, NDPC does implement electric energy conservation efforts as part of its operations. Power costs represent the largest single recurring expense in its pipeline operations.[181]

182. NDPC employs variable frequency drives, energy-efficient pumps and motors, and hydraulic and pipe control systems so as to reduce energy consumption.[182]

183. Likewise, NDPC asserts that its proposal to use both 24-inch and 30-inch diameter pipe resulted in significant energy efficiency over a design that utilized only 24-inch pipe. By utilizing both pipe diameters, NDPC was able to eliminate three pump stations between Clearbrook and Superior, resulting in significant energy savings.[183]

184. NDPC has also committed itself to implementation of a "neutral footprint program" as part of the Project. Under this program, NDPC and its affiliates will ensure that: (i) one tree is planted for each merchantable tree that must be removed to build the new facilities, (ii) one acre of wilderness land is conserved for every acre permanently impacted by the Project, and (iii) one kilowatt hour of renewable energy is generated for each kilowatt hour of energy consumed by the Project.[184]

185. Additionally, NDPC has pledged to acquire renewable energy offsets equal to the energy consumed by the Project in Minnesota.[185]

186. Neither NDPC's nor federal and state conservation programs will reduce demand for petroleum sufficiently to obviate the need for the Project. Notwithstanding very useful efforts to curb the demand for petroleum, Minnesota and the surrounding region will continue to need petroleum-based fuels for the foreseeable future.[186]

3. The effects of the Applicant's promotional practices

187. As a common carrier, NDPC responds to shipper demand for transportation services.[187]

---

[180] Ex. 3, Part 7853.0260, at 1; Ex. 50, at 46: 13-17 (Heinen Direct).

[181] Ex. 1, Part 7853.0260, at 1 (CN Application).

[182] *Id.* at 1-3 (CN Application).

[183] Ex. 9, at 4:116-124 (Simonson Direct).

[184] Ex. 17, at 11: 273-300 (Eberth Rebuttal); Ex. 11, at 11:270-276 (Ploetz Direct).

[185] Ex. 17, 11:270 – 13:347 (Eberth Rebuttal).

[186] Ex. 14, Schedule 2, at 24 (Earnest Direct).

[187] *See* Ex. 7, at 3:91-98 (Steede Direct).

188. Refineries have sought increasing levels of transportation of crude oil supplies from North Dakota, oil supplies that will replace stocks from other regions.[188]

189. NDPC has not undertaken promotional activities that would increase the demand for crude oil supplies in Minnesota or the surrounding region.[189]

4. The ability of current facilities and planned facilities to meet future demand.

190. Between 2006 and 2012, NDPC invested approximately $1 billion in expansions to the existing NDPC System.[190]

191. These improvements included a series of operational changes that do not require a CN – such as hydrotesting lines to restore capacity and adding pump stations in North Dakota to remove system bottlenecks.[191]

192. These operational changes increased the available capacity on Line 81 from 65,000 bpd to 210,000 bpd on the portion of the pipeline between the Williston Basin and Clearbrook, Minnesota.[192]

193. Despite these improvements, shipper demand for pipeline capacity on the NDPC System continues to far outpace the available capacity.[193]

194. When the demand for transportation service exceeds available pipeline capacity, the NDPC System goes into apportionment.[194]

195. The NDPC System to Clearbrook was in constant apportionment between 2006 and 2012, intermittent apportionment during 2013, and back into apportionment in 2014.[195]

196. When a pipeline is apportioned, the available pipeline capacity is allocated to the shippers on the basis of the applicable tariffs. In such circumstances, shippers must either reduce their expected volume of crude oil or find alternative ways to transport these commodities.[196]

---

[188] Ex. 1, Part 7853.0250, at 4 (CN Application).

[189] *Id*.

[190] Ex. 7, at 3:72-78 (Steede Direct).

[191] *Id.* at 3:73-75 (Steede Direct).

[192] Ex. 20, at 6:163-166 (Steede Rebuttal).

[193] Ex. 7, at 3:70-72; 3:80-84 (Steede Direct).

[194] *Id.* at 3:95-96 (Steede Direct).

[195] *Id.* at 3:80-84 (Steede Direct).

[196] *Id.* at: 91-4:107 (Steede Direct).

197. When apportionment is announced, refineries, including the Flint Hills and St. Paul refineries in Minnesota, are unable to obtain all of the crude oil originally directed to them. Apportionment has an immediate negative impact on producers, shippers, and refiners.[197]

198. Apportionment is most effectively addressed by providing additional transportation capacity.[198]

199. NDPC maintains that connections between Clearbrook and Superior are needed to avoid apportionment of shipments that are nominated for deliveries to Superior, Wisconsin, and beyond.[199]

200. The Project is expected to eliminate the apportionment of light crude oil that is delivered to refineries in Minnesota and Wisconsin.[200]

201. As noted above, NDPC has executed TSAs containing ship-or-pay commitments for 155,000 bpd on the Project. NDPC states that it will allot the remaining capacity between historical and new shippers.[201]

202. It is doubtful that shippers would commit to long-term ship-or-pay agreements if NDPC could increase the amounts of light crude oil it transports without new infrastructure. For instance, Marathon decided to invest more than $1 billion in the Project because it is currently unable to acquire sufficient quantities of Bakken crude through available transportation options. Without the Project, Marathon would either have to obtain crude from other sources or would have to transport Bakken crude by rail or truck. Any of these options is likely to increase the costs that Marathon would have to pay to obtain crude oil.[202]

203. Marathon maintains the Project is the best option to supply Bakken crude oil to its Midwest refining system. It expresses its confidence in Enbridge's ability to execute the Project efficiently.[203]

204. Further, a majority of shippers that utilize the NDPC System support the development and construction of the Project because it affords them a transportation alternative to truck and rail.[204]

---

[197] Ex. 20, at 4:129-134 (Steede Rebuttal).

[198] Ex. 8, at 7:177-183 (Glanzer Direct).

[199] *Id.* at 4:121-129 (Glanzer Direct).

[200] Ex. 8, at 7:187-188 (Glanzer Direct).

[201] Ex. 7, at 6:177-193 and 8:244-245 (Steede Direct).

[202] Ex. 13, at 4:119-5:124, 5:134-135; 7:194:202 (Palmer Direct).

[203] *Id.* at 5:142-6:153 (Palmer Direct).

[204] Ex. 7, at 9:275-277 (Steede Direct).

205. There are no existing or planned facilities that can meet the future demand for transportation of Bakken crude oil without a CN.[205]

5. The effect of the proposed facility, or a suitable modification of it, in making efficient use of resources.

206. The Project begins at NDPC's existing Beaver Lodge station, near Tioga, North Dakota. The station is centrally-located near many of the most mature thermal resources in North Dakota. The area surrounding the station already has extensive pipeline gathering, storage, and loading facilities. [206]

207. From Beaver Lodge, the Project parallels NDPC's Line 81 pipeline to Clearbrook, Minnesota. This is significant for two reasons. By paralleling Line 81 into Clearbrook, Minnesota, NDPC is able to offer both redundant service to its shippers from Beaver Lodge to Clearbrook and expanded service into the Clearbrook Terminal. NDPC's customers, who today ship crude oil between Beaver Lodge and Clearbrook on Line 81, will be able to nominate to the combined NDPC System that includes Line 81 and the Project, increasing the shipping capacity into Clearbrook by 225,000 bpd.[207]

208. Likewise important, the preferred route closely follows existing pipeline rights-of-way. From the North Dakota border to Clearbrook, the project will utilize existing pipeline rights-of-way. Similarly, east of Clearbrook, more than 75 percent of NDPC's Preferred Route runs along existing rights-of-way. [208]

209. Leveraging the existing resources of the Clearbrook Terminal and nearby infrastructure also adds considerable value. The Clearbrook Terminal provides interconnections between the NDPC System, the Enbridge Mainline System, and the MPL System. There are existing tanks, interconnections, emergency response facilities, trained personnel, and other needed infrastructure in this area.[209]

210. The MPL system serves the two Minnesota refineries: St. Paul Park Refining Company; and Flint Hills. MPL pipelines, tanks, and other equipment are located at Clearbrook.[210]

211. The Project is also designed to efficiently deliver Bakken crude oil to the Enbridge Mainline System in Superior, Wisconsin. NDPC proposes that if the proposed pipeline is placed into service, all of the Bakken crude oil that is destined for Superior, Wisconsin, will be transported on the new segment of the Project between Clearbrook

---

[205] *See* Minn. R. 7853.0030; Ex. 54, at 54:2-4 (Heinen Surrebuttal).

[206] Ex. 7, at 9:264-267 (Steede Direct); Ex. 21, Schedule 2, at 76 (MacPhail Rebuttal).

[207] Ex. 8, at 6:159-165 (Glanzer Direct); Ex. 21, at 9: 288-10: 305 (MacPhail Rebuttal).

[208] Ex. 8, at 6 Figure 1 (Glanzer Direct); Ex. 23, at 15:427-434 (Simonson Rebuttal).

[209] Ex. 8, at 6 Figure 1 (Glanzer Direct); Ex. 20, at 10:281-288 (Steede Rebuttal); Ex. 25, at 9:267-273 (Haskins Rebuttal).

[210] Ex. 20, at 10:276-298 (Steede Rebuttal).

and Superior. Such a change would eliminate bottlenecks that are occurring now in Clearbrook and would avoid future apportionment of Bakken crude oil on the Enbridge Mainline System into Superior, Wisconsin.[211]

212. Downstream of the Superior Terminal, NDPC provides shippers with access to an extensive network of existing pipelines and delivery points in the Upper Midwest, Lower Midwest, Ontario, Quebec, mid-continental United States, and the Gulf Coast.[212]

213. The hearing record demonstrates that the NDPC has designed the proposed pipeline infrastructure so as to operate efficiently. Based upon hydraulic modeling, NDPC determined that using a 30-inch pipe diameter between Clearbrook and Superior eliminated the need for three pump stations. Because pump stations represent the most significant energy usage on the pipeline system, eliminating three pump stations creates substantial energy efficiencies.[213]

214. Also significant, through its use of 24-inch and 30-inch pipeline, the proposed Project is scalable to add additional capacity. If new pump stations were deployed in the future, the pipeline capacity could be increased from 225,000 bpd to 365,000 bpd from Beaver Lodge to Clearbrook, and from 375,000 bpd to up to 640,000 bpd from Clearbrook to Superior. The additional capacity could be made available without use of new pipelines or easements.[214]

215. The pipeline proposal follows from very substantial engineering, design, and land survey work in northern Minnesota. This has resulted in a pipeline design that will make an "efficient use of resources." [215]

B. A More Reasonable and Prudent Alternative to the Proposed Project Has Not Been Demonstrated by a Preponderance of the Evidence on the Record by Parties or Persons other than the Applicant.

216. When comparing the Applicant's proposal against other reasonable alternatives, the Commission considers a number of sub-factors:

(a) The appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;

---

[211] Ex. 8, at 4:114-118 (Glanzer Direct).

[212] *Id.* at 6, Figure 1 (Glanzer Direct); Ex. 14, Schedule 2, at 12-13 (Earnest Direct).

[213] Ex. 9, at 4:116-124 (Simonson Direct).

[214] *Id.* at 5:138:146 (Simonson Direct).

[215] *Compare* Minn. R. 7853.0130(A)(5) with Ex. 17, at 15:422-425 (Eberth Rebuttal); Evid. Hr'g Tr. Vol. 2, at 63:23 - 64:6 and 104:6-15 (MacPhail); Evid. Hr'g. Tr. Vol. 4, at 89:13-17, 102:20-24 and 141:17-142:16 (Simonson); Vol. 5, at 93:15 – 94:-18 (Ploetz).

(b) the cost of the proposed facility and the cost of energy to be supplied by the proposed facility compared to the costs of reasonable alternatives and the cost of energy that would be supplied by reasonable alternatives;

(c) the effect of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives; and

(d) the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives.[216]

Each of these sub-factors is addressed, with respect to the proposed project and each of the System Alternatives, in the Findings below.

1. The Features of the Proposed Project

(a) Size, Type, and Timing of the Proposed Project

i. Size of Project

217. As noted above, NDPC proposes to construct a pipeline that will:

(a) have an annual capacity of 225,000 bpd from Berthold, North Dakota to Clearbrook, Minnesota, and an annual capacity of 375,000 bpd from Clearbrook, Minnesota to Superior, Wisconsin;

(b) utilize 24-inch and 30-inch pipe for an efficient transportation of crude oil;

(c) be secured by long-term contractual arrangements representing between 70 and 80 percent of the rated capacity for each segment of the pipeline; and

(d) increase pipeline capacity that is available to new shippers by approximately 34,000 bpd.[217]

ii. Type of Project

218. The proposed Project will meet the design and construction standards of the American Petroleum Institute.[218]

---

[216] Minn. R. 7853.0130(B).

[217] Ex. 7, at 8:239-244 (Steede Direct); Ex. 9, at 4:116-24 (Simonson Direct); Ex. 20, at 15:430-439 (Steede Rebuttal).

[218] Ex. 1, Part 7853.0270, at 1 (CN Application).

219. The proposed pipe wall thicknesses selected by NDPC are based upon its engineering studies and an application of the relevant federal regulatory standards at various sites along the proposed route.[219]

220. NDPC proposes to use heavier walled pipe in specific instances to account for additional loads (such as pipe installed under roads and railroads) or particular stresses on the pipe during installation (such as pipe installed by bores or directional drills).[220]

221. The pipe wall thicknesses proposed by NDPC for the Project meets the applicable codes and standards for safe operation of petroleum pipelines.[221]

222. During construction, NDPC's practice is to have its inspection staff visually inspect every weld and to perform x-ray or ultrasonic inspections on all field welds. These practices exceed the applicable federal inspection requirement.[222]

223. Once pipe is placed into the ground and covered with backfill, the pipe sections are pressure-tested with water (hydrostatic testing) to ensure integrity and establish the pipeline's Maximum Allowable Operating Pressure. In addition, the sections are inspected with inline inspection tools to look for dents, buckles, or other non-conformities. A cathodic protection system is then installed on the pipe, which inhibits corrosion on the steel.[223]

224. NDPC has pledged to undertake a series of measures to protect the environment along the selected route. These measures include: site-specific worker training; equipment monitoring; best practices in pipe handling; establishing set-back zones; horizontal drilling; and removal and disposal of all construction materials after construction is completed.[224]

225. NDPC monitors its pipelines for possible releases of oil using four key methods: system monitoring by Enbridge Control Center; visual surveillance; frequent line balance calculations; and computational pipeline monitoring.[225]

226. NDPC's Control Center is located within the Edmonton Control Center.[226]

---

[219] Ex. 54, at 9:19-21 (Heinen Surrebuttal); *see also* Evid. Hr'g Tr. Vol. 7, at 195:9-196:4, 197:6-9, 199:10-200:4 (Heinen).

[220] Ex. 23, at 12:356-61 (Simonson Rebuttal).

[221] *Id.* at 14:397-99 (Simonson Rebuttal).

[222] Ex. 9, at 10:280-86 (Simonson Direct).

[223] *Id.* at 10:288-93 (Simonson Direct).

[224] Ex. 220, at 10:31-11:18 (Barnett Direct).

[225] Ex. 25, at 4:106-111 (Haskins Rebuttal).

[226] *Id.* at 4:121-122 (Baumgartner Rebuttal).

227. The Enbridge Control Center (Control Center), newly constructed in 2011, monitors approximately 15,380 miles of pipelines. The lines are segregated into 28 distinct pipeline assets. Sixteen of these pipeline systems are located in the United States. Enbridge also maintains a fully-functional back-up Control Center in the Edmonton area that can assume the Control Center functions for the Enbridge system.[227]

228. The Control Center employs multiple methods to prevent and mitigate pipeline releases. Specifically, the Control Center uses Computational Pipeline Monitoring (CPM). CPM compares expected pressures and flow rates to the actual pressures and flow rates along the pipelines. Discrepancies between the expected and actual results trigger a leak alarm and line shutdown.[228]

229. The Control Center also uses a Supervisory Control and Data Acquisition (SCADA) system. This system remotely controls the pipelines, detects anomalies, issues controller alarms, and can initiate either a station shutdown or a line stop.[229]

230. The Project is designed with a maximum allowable operating pressure not to exceed 1480 pounds per square inch. If the Control Center detects pressure along the pipeline measured at more than 1480 pounds per square inch, the SCADA system will shut down the line automatically.[230]

231. Controllers routinely use line balance calculations to compare the volume of oil injected into the pipeline with the volume of oil delivered from the line. Line balance calculations are performed every two hours using two-hour and twenty-four hour balance intervals. Negative line balances that exceed the detection thresholds will result in a line being shut down.[231]

232. Enbridge maintains an emergency phone number that is communicated to emergency officials and the public. The telephone line is continuously monitored and a pipeline will be shut down if there is a report of oil in the vicinity of a pipeline.[232]

233. Enbridge uses aerial patrols to survey the pipelines for potential leaks.[233]

234. NDPC proposes to install a series of 21 remote shut-off valves to isolate sections of the pipeline for maintenance purposes or in the event of a release. If a leak is detected, these remotely operated valves are designed to fully close in three minutes.

---

[227] Ex. 26, at 3:68-92 (Baumgartner Rebuttal).

[228] *Id.* at 7:206-217 (Baumgartner Rebuttal).

[229] Ex. 26, at 7:220-223 (Baumgartner Rebuttal).

[230] Ex. 10, at 9:292-297 (Johnson Direct).

[231] Ex. 26, at 8:237-241 (Baumgartner Rebuttal).

[232] *Id.* at 9:280-282 (Baumgartner Rebuttal).

[233] *Id.* at 12:395-396 (Baumgartner Rebuttal).

Valve site instrumentation includes temperature and pressure transmitters, which provide additional real-time information on the status of the pipeline.[234]

235. Isolation valves on the Project would be remotely controlled and could be closed by the Control Center.[235]

236. If it is necessary to manually close one of the valves, it would take approximately one hour for NDPC personnel to travel from an existing or proposed pipeline maintenance facility to the most remote shutoff valve.[236]

237. NDPC's project design includes permanent road access to each valve.[237]

238. NDPC proposes to place these valves along the pipeline route in accordance with the applicable federal standard. The average distance between these valves is 12.5 miles, with none more than 29 miles from the next valve.[238]

239. NDPC also pledges to place valves near the location of certain high consequence areas (HCAs), on or near the centerline of the pipeline route, so as to reduce the impacts in the event of a release. NDPC's preliminary plan for valve installation is as follows: [239]

Milepost	Name	Distance from nearest upstream valve
301.0	Red River - Downstream	2.3 miles
309.2	Crookston	8.1 miles
323.6	Red Lake River – Upstream	14.4 miles
327.7	Red Lake River - Downstream	4.1 miles
347.4	Brooks	19.7 miles
373.0	Clearbrook Terminal	25.6 miles
386.1	Bagley	13.1 miles
402.5	Mississippi River – Upstream	16.4 miles
405.1	Mississippi River – Downstream	2.6 miles
411.5	LaSalle Creek	6.4 miles
424.8	Upstream of Hay Creek	13.3 miles
432.7	Park Rapids	7.9 miles
444.2	Hubbard (off Hwy 71)	11.5 miles
464.8	Backus	20.6 miles
481.0	Pine River	16.2 miles
499.5	Outing	18.5 miles
528.7	Willow River	29.2 miles
534.8	Mississippi River – Upstream	6.1 miles
535.6	Mississippi River - Downstream	0.8 miles
543.7	Sandy River	8.1 miles
549.5	McGregor	5.8 miles

[234] Ex. 9,at 7:201 (Simonson Direct); Ex. 23, at 9:252-10:271 (Simonson Rebuttal).

[235] Ex. 23, at 10:268-271 (Simonson Rebuttal).

[236] Ex. 36, at 1:23-24 (Haskins Sur-Surrebuttal)

[237] Ex. 23, at 9:235-236 (Simonson Rebuttal); Ex. 26, at 9:284-302 (Baumgartner Rebuttal).

[238] Ex. 9, at 7:204-06 (Simonson Direct); Ex. 23, at 5:150-152; 6:157-158 (Simonson Rebuttal); *see also*, 49 C.F.R. Part 195.

[239] Ex. 9, at 7 (Simonson Direct); Ex. 23, at 7:181-189 (Simonson Rebuttal).

240. HCAs are defined as high population areas, well head and drinking water areas, commercially navigable waterways, as well as ecologically sensitive areas.[240]

241. For the Preferred Route, NDPC identified 214 HCAs in North Dakota, Minnesota, and Wisconsin. NDPC also identified 383 HCAs for SA-03 and 330 HCAs for SA-03-AM.[241]

242. NDPC conducted an intelligent valve placement (IVP) analysis for the Project, SA-03, and SA-03-AM.[242]

243. The IVP analysis showed that 38 valves would be needed for the Project, 52 valves for SA-03, and 53 valves for SA-03-AM.[243]

244. NDPC, as the Project owner, is responsible for emergency response and for funding emergency response at the time of any incident.[244]

245. NDPC employs a multi-level approach to emergency response preparations.[245]

246. Enbridge's Integrated Contingency Plan (ICP) contains a core plan and regional annexes that are specific to each geographic region served by Enbridge and its affiliates.[246]

247. Enbridge has prepared an Emergency Response Action Plan (ERAP) for each region. Each ERAP is a region-specific plan that is designed to be used by first responders and Enbridge personnel in the field. The ERAP includes all the relevant Emergency Response actions that will be taken by Enbridge. NDPC has provided the ERAPs covering the North Dakota and Superior Regions along the proposed route.[247]

248. NDPC has outlined protocols for notifying environmental agencies, local officials, and local first responders of an incident, and working with these agencies to quickly resolve problems. NDPC's protocols also address in detail methods for addressing emergencies in, or near, environmentally sensitive areas.[248]

---

[240] Ex. 9, at 6:193-201 (Simonson Direct).

[241] Ex. 23, at 7:181-189 (Simonson Rebuttal).

[242] *Id.* at 4:102-103 (Simonson Rebuttal).

[243] *Id.* at 5:135-143 (Simonson Rebuttal).

[244] Ex. 17, at 14:371-373, 14:382-384 (Eberth Rebuttal); Ex. 33, at 3:72-73 (Eberth Sur-Surrebuttal).

[245] *See, e.g.*, Minn. Stat. §§ 115E.02-.04 (2014); 49 C.F.R. Part 194 (2014); Ex. 17, Schedule 2, at 21-30 (Eberth Rebuttal).

[246] Ex. 12, at 4:109 – 5:148 (Haskins Direct).

[247] Ex. 25, at 2:43-50 (Haskins Rebuttal) and Ex. 17, Schedule 2 (Eberth Rebuttal).

[248] *Id.* at 6:170-8:230 (Haskins Rebuttal).

249. Enbridge's ICP and ERAPs meet all local, state, and federal requirements, including PHMSA pipeline safety regulations and applicable Occupation Safety and Health Administration, United States Coast Guard, and American Pipeline Institute national technical standards.[249]

250. Similarly, Enbridge meets the National Preparedness for Response Exercise Program (NPREP) standards. These standards were developed by PHMSA, the United States Coast Guard, the EPA, and the United States Department of the Interior to establish a preparedness exercise program for oil pollution response.[250]

251. Between 2012 and 2014, Enbridge invested $50 million to improve its equipment, training, and emergency-response capabilities.[251]

252. Pipeline technology – including available inspection tools, cathodic protection and corrosion protection – has advanced significantly in recent years. NDPC pledges to use a series of state-of-the-art technologies to maintain the integrity of the proposed line.[252]

253. NDPC is capable of constructing the proposed Project in a safe, efficient, and reliable manner.[253]

254. NDPC is capable of safely operating the pipeline in a manner that complies with all regulatory standards.[254]

255. NDPC is capable of making a robust and effective response in the event of a release of oil.[255]

iii. Timing of the Project

256. At the time it filed its Application, NDPC planned to start construction of the Project before June 2015 and complete construction by January 2016. Its original estimated in-service date was March 31, 2016.[256]

---

[249] *Id.* at 4:96-101 (Haskins Rebuttal).

[250] *Id.* at 13:405-410 (Haskins Rebuttal); *see also,* 49 C.F.R. Part 194, Appendix A.

[251] Ex. 25, at 11:334-335 (Haskins Rebuttal).

[252] Ex. 17, Schedule 2, at 7 (Eberth Rebuttal).

[253] Ex. 1, at Parts 7853.0260, 7853.0530 and Appendices A, C, G3 (CN Application, Environmental Protection Plan, Agricultural Protection Plan, Minnesota Facility Drawings); Ex. 9, at 9:247 – 12:342 (Simonson Direct); Ex. 17, Schedule 2, Appendices A, B and C (Eberth Rebuttal); Ex. 212, at 2:53-67 (Duncombe Direct); Ex. 220, at 10:8-29 (Barnett Direct).

[254] Ex. 1, at Parts 7853.0250 and 7853.0630 (CN Application); Ex. 17, Schedule 2, Appendices A, B and C (Eberth Rebuttal).

[255] Ex. 25, at 2:43 – 21:645 (Haskins Rebuttal); Crookston Tr., at 83 (Chief Gary Larson).

[256] Ex. 6, at 3:93-96 (Eberth Direct).

257. Following the bifurcation of the CN and the routing proceeding, NDPC recalibrated its estimated in-service date. NDCP now projects that the pipeline could be in-service in 2017.[257]

258. The projected in-service date for the Project has impacted shippers that would like to ship oil along the pipeline. For example, Enerplus Resources Corporation states that its rail transportation service agreements, which had been timed to expire near the original in-service date, will be costly to revise and extend.[258]

259. Until the Project is placed in-service, Bakken crude oil that would otherwise be transported on the Project will likely be transported by rail.[259]

(b) Cost of the Proposed Project

260. NDPC estimates the cost of constructing the Project to be $2.6 billion. Of this amount, NDPC projects expenditures of $1.2 billion in Minnesota.[260]

261. If approved, the new pipeline would be among the largest construction projects in Minnesota history.[261]

262. The estimated tolls for uncommitted shippers transporting crude oil on the Project range from $2.01 per barrel to $3.93 per barrel, depending on the delivery point, type of service and the volume of oil that is shipped.[262]

(c) Effect of the Proposed Project upon the Natural Environments

263. NDPC studied the Preferred Route and a two-mile-wide corridor based on the Preferred Route (Preferred Route Study Area). NDPC undertook this study in conjunction with its analysis of SA-03 through SA-08 and SA-03, AM.[263]

264. The Preferred Route Study Area is approximately 616 miles long. The Preferred Route would cross 21 counties in North Dakota, Minnesota, and Wisconsin. It would cross the boundaries of three cities: Stanley, North Dakota; Mahtowa, Minnesota; and Superior, Wisconsin. The population density is fairly low across the study area.[264]

---

[257] Ex. 17, at 10:264-11:271 (Eberth Rebuttal).

[258] Enerplus Comments, at 2-3 (Jan. 7, 2015) (eDocket No. 20151-106145-01) (Enerplus Comments).

[259] Ex. 13, at 7:196-202 (Palmer Direct).

[260] Ex. 6, at 3:89-90 (Eberth Direct).

[261] *See* Ex. 16, at 1 (Lichty Direct).

[262] Ex. 21, Schedule 2, at 158-159 (MacPhail Rebuttal).

[263] Ex. 17, Schedule 1, at 181 (Eberth Rebuttal).

[264] *Id.* at 181 (Eberth Rebuttal); Ex. 80, at 41 (EERA Report).

265. The Preferred Route is largely rural with few community features.[265]

266. Of the land crossed by the Preferred Route, less than one mile (approximately 12 acres) is registered in a conservation easement, 28 miles (approximately 411 acres) are administered by the MDNR, three miles (approximately 42 acres) are managed by the North Dakota Department of Game and Fish, and 47 miles (approximately 681 acres) are managed as other public lands or as county-tax forfeit lands.[266]

267. The Preferred Route does not cross any federal or tribal lands.[267]

268. The Preferred Route Study Area contains 442,467 acres of prime farmland, of which approximately 5,278 (or 363 miles) are crossed by the Preferred Route.[268]

269. The Preferred Route would cross 23 watersheds, the fewest of any of the system alternatives.[269]

270. While the Preferred Route Study Area contains 2,049 stream segments, the Preferred Route would cross only 263 water body segments.[270]

271. The Preferred Route Study Area contains approximately 119,800 acres of wetlands, the majority of which are forested-shrub areas, followed by emergent and lake areas. Within this corridor, NDPC proposes crossing only 42 miles (approximately 479 acres) of wetlands classified as forested-shrub areas, 26 miles (approximately 301 acres) of wetlands classified as emergent, and less than two miles (approximately 13 acres) of wetlands classified as riverine, pond, and lake.[271]

272. The Preferred Route Study Area contains 119 lakes, but Hay Creek, which is listed in the MDNR Public Waters Inventory (PWI) as a lake, is the only lake that would be crossed by the Preferred Route. Similarly, of the 84 fast-moving water bodies within the Preferred Route Study Area, only six would be crossed by the Preferred Route.[272]

---

[265] Ex. 17, Schedule 1, at 182 (Eberth Rebuttal); Ex. 80, at 41 (EERA Report).

[266] Ex. 17, Schedule 1, at 182 (Eberth Rebuttal).

[267] *Id*.

[268] *Id.* at 183 (Eberth Rebuttal).

[269] Ex. 17, Schedule 1, at 185 (Eberth Rebuttal). *See* Section III(B)(f) for more detail regarding the human and environmental features identified in each system alternative Study Area.

[270] *Id.* at 185 (Eberth Rebuttal).

[271] *Id.*; Ex. 80, at 73 (EERA Report).

[272] Ex. 17, Schedule 1, at 185 (Eberth Rebuttal); Ex. 80, at 72 (EERA Report); Ex. 28, at 5:159-163 (Wuolo Rebuttal).

273. NDPC's revised Preferred Route accounts for, and avoids, many of the potential impacts identified in the Route Study.[273]

274. NDPC estimates that due to indirect power consumption, the Project would emit 85,770 tons of carbon dioxide (CO_2), 93 tons of nitrogen oxides (NO_X), and 114 tons of sulfur dioxide (SO_2) during each year of operations.[274]

275. NDPC assessed all lakes that have hydrologic connections through streams, wetlands or topography within the Preferred Route Study Area. From this analysis, it determined that "approximately 98% of the lakes in the watersheds intersected by the Project have no hydrologic connection to the Project."[275]

276. Ray Wuolo, the Principal Hydrologist with Barr Engineering, testified credibly that in the event of a release of crude oil from the proposed pipeline, a set of early interventions could limit the impacts to groundwater to "a few hundred feet." The interventions would include "excavating impacted soil, removing other impacted materials, and pumping oil that is floating on the water table …."[276]

277. Pointing to County Well Index logs for locations within a mile of the project, Mr. Wuolo notes that more than 70 percent of the Preferred Route crosses aquifers that are "low permeability" or "very low-permeability."[277]

278. NDPC's Environmental Protection Plan (EPP) outlines construction-related environmental policies, procedures, and hazard mitigation measures. The EPP also includes spill prevention, containment, and control measures. The EPP further addresses interventions for erosion control, mud releases, controlling noxious weeds, and revegetation measures.[278]

279. A comparison of the Preferred Route Study Area with the actual impacts of the Preferred Route demonstrates that many sensitive resources have been entirely avoided, or impacts have been minimized, by NDPC's refinement of the Preferred Route. The avoidance of these impacts follows directly from the detailed environmental surveys, discussions with area landowners and constructability reviews undertaken by NDPC over a three-year period.[279]

---

[273] Ex. 17, Schedule 1, at 189 (Eberth Rebuttal).

[274] *Id.* at 188 (Eberth Rebuttal).

[275] Ex. 28, at 4:123 – 5:163 (Wuolo Rebuttal).

[276] *Id.* at 8:178 – 9:268 (Wuolo Rebuttal).

[277] *Id.* at 8:235–242 (Wuolo Rebuttal).

[278] Ex. 11, at 11:261-267 (Ploetz Direct).

[279] *See* Ex. 17, Schedule 1, at 189-190 (Eberth Rebuttal); Evid. Hr'g. Tr. Vol. 4, at 90:8-13 (Simonson); Vol. 5, at 90:18 – 95:-21 (Ploetz).

(d) Effect on of the Proposed Project on the Socioeconomic Environments

280. The total economic benefit of Project construction is estimated at $2.4 billion.[280]

281. The installation of the Project will require a construction schedule of approximately 12 months.[281]

282. NDPC has pledged to use union contractors and union labor for the Project.[282]

283. Because of the Project's size, hundreds of workers will be required. NDPC will source various construction jobs locally.[283]

284. The Project will provide beneficial impacts to local economies during construction and operation through new jobs, taxes, and increased demand for goods and services from local businesses.[284]

285. Richard W. Lichty, Ph.D, Professor Emeritus of the University of Minnesota – Duluth, testified credibly that, in the first year, the Project will result in approximately 2,513 jobs and $178,755,775 in labor income. On an annual basis it will total economic output of $609,187,632. The total "output impact" associated with the construction phase of the project is $2,092,083.[285]

286. Unemployment in the Project area would be temporarily reduced and payroll taxes would temporarily rise. Local businesses would also benefit from the demand for goods and services generated by the workforce's need for food, lodging and supplies. [286]

287. In addition, NDPC expects to purchase some of the materials necessary for construction of the Project locally, including consumables, fuel, equipment, and miscellaneous construction-related materials.[287]

288. Based upon the anticipated Project cost and current tax schedules, NDPC estimates that it would pay approximately $24.9 million in annual additional property

---

[280] Ex. 3, Part 7853.0240, at 12 (Revised CN Application).

[281] Ex. 17, at 11:271 (Eberth Rebuttal).

[282] Ex. 9, at 12:336-337 (Simonson Direct).

[283] *Id.* at 12:335-342 (Simonson Direct).

[284] Ex. 16 at 2:29-39 and Schedule 1 (Lichty Direct); Ex. 212, at 3:74-86 (Duncombe Direct); Ex. 211, at 1:39-3:95 (Engen Direct); Ex. 210, at 1:25-2:91 (Olson Direct).

[285] Ex. 16, at 2:35-39, and Schedule 1 at 15 (Lichty Direct).

[286] Ex. 1, Part 7853.0240, at 12 (CN Application); Ex. 16, Schedule 1, at 5-15 (Lichty Direct).

[287] Ex. 3, Part 7853.0240, at 12 (Revised CN Application).

taxes in Minnesota beginning in 2016. This amount would grow to an estimated tax amount of $37.1 million in 2025.[288]

289. If approved, the Project would yield 2,069 person-years jobs and generate $450 million in economic impact. Typical operations from 2017 to 2025 are estimated to lead to 3,352 full-time equivalent jobs and create an additional $725 million per year in economic impact.[289]

(e) Reliability of the Proposed Project

290. Minnesota and neighboring states benefit from maintaining a secure supply of crude oil.[290]

291. Because Minnesota has no crude oil production of its own, reliability of oil deliveries is of special importance. Minnesota and its refineries are entirely dependent upon the oil supplies that are imported from other states and other countries.[291]

292. Capacity restrictions are occurring now along Line 81.[292]

293. During October of 2014, nominations for transporting oil far exceeded the 210,000 bpd of available capacity on Line 81, resulting in apportionment. Because of capacity restrictions, notwithstanding this demand, throughput on Line 81 was approximately 20,000 bpd less than available capacity.[293]

294. Unplanned outages typically range between 3 percent and 7 percent of design capacity of a pipeline.[294]

295. Additionally, because Line 81 is an older pipeline, planned outages and integrity digs are expected in the future.[295]

296. The redundant service provided by the Project reduces economic risks to shippers and refiners in the event Line 81 is out of service.[296]

---

[288] *Id*.

[289] *Id.* at 12-13 (Revised CN Application); Ex. 16, Schedule 1, at 5-15 (Lichty Direct).

[290] Ex. 14, at 5:93-6:122 (Earnest Direct).

[291] Ex. 14, Schedule 2 at 20 (Earnest Direct).

[292] Ex. 20, at 6:177-7:202 (Steede Rebuttal).

[293] *Id.* at 7:194-197 (Steede Rebuttal).

[294] *Id.* at 7:199-202 (Steede Rebuttal).

[295] *Id.* at 8:234-235 (Steede Rebuttal).

[296] Ex. 19, at 5:129-47 and 6:164-67 (Glanzer Rebuttal).

297. The Project's interconnection at the proposed Clearbrook West Terminal, thereby creating a redundant service option for deliveries to the MPL System, benefits the reliability of crude oil supplies to Minnesota.[297]

298. In the event that a capacity restriction were to occur on NDPC's existing Line 81, Bakken oil would still be able to be delivered to the MPL System, including Minnesota's two refineries, through the proposed Sandpiper line.[298]

299. The Sandpiper Project improves the reliability of light crude oil supplies for Minnesota, a useful hedge against unexpected outages in Minnesota's oil market and other oil markets.[299]

300. On a per-ton mile basis, the risks of casualty and a discharge of hazardous materials are significantly lower when crude oil is transported along a pipeline, such as Sandpiper, than when it is transported by truck or railway car. Between 2005 and 2009, pipeline incidents per billion ton-miles were 0.58, compared to 2.08 for rail and 19.95 for trucks.[300]

301. Stability in oil supplies also translates into increased stability in the supplies of the refined products that come from this oil. Refined products from the crude oil that will be transported along Sandpiper are regularly and reliably available to Minnesotans from the refineries within the state and wider region.[301]

2. The Rail Alternative

(a) Size, Type, and Timing of the Alternative

302. Significant amounts of Bakken crude oil are transported through Minnesota by railroad *en route* to refineries throughout the United States. In 2008, United States Class I railroads transported only 9,500 carloads of crude oil. By 2013, the number of crude oil carloads increased to 407,642. The use of rail transport has thus increased more than 4,190 percent in five years.[302]

---

[297] Ex. 20, at 10:276-298 (Steede Rebuttal).

[298] Ex. 7, at 10:287-296 (Steede Direct).

[299] Ex. 50, at 90:7-9 (Heinen Direct).

[300] Ex. 1, Part 7853.0250, at 2-3 (CN Application); *compare also,* ORDER GRANTING CERTIFICATE OF NEED, *In the Matter of the Application of Enbridge Energy, Limited Partnership for a Certificate of Need for the Line 67 (Alberta Clipper) Station Upgrade Project – Phase 2 – in Marshall, Clearwater, Itasca, Kittson, Red Lake, Cass, and St. Louis Counties*, MPUC Docket No. PL-9/CN/13-153, at 25 (201411-104527-01) ("for each mile that a barrel is transported, the odds that the barrel will be spilled is higher if the barrel is transported by truck or rail than by pipeline").

[301] Ex. 14, at 6:112-122 (Earnest Direct).

[302] Ex. 15, Schedule 2, at 10 (Rennicke Direct).

303. It is estimated that during 2014, 650,000 railcar loads of crude oil were shipped from North Dakota.[303]

304. The Project will be capable of transporting 375,000 bpd of Bakken crude. This volume corresponds to approximately 2,052 tank cars each day. Over the course of a year, the effective loading capacity is the equivalent of 730,000 rail cars.[304]

305. Of a hypothetical daily total of 2,052 railcars, 1,710 railcars (comprising between 35 and 47 train-lengths) would be in transit each day. This amount includes railcars that are fully loaded with crude oil and empty railcars on a return trip for additional supplies. One thousand two hundred ten (1,210) rail cars would set out from Beaver Lodge, North Dakota to Superior, Wisconsin. A different set of 500 rail cars would head from Beaver Lodge to Clearbrook, Minnesota.[305]

306. The remaining 342 cars are equal to the number of tank cars that would be stationary during the loading and off-loading of crude oil.[306]

307. Only one segment of railway line in Minnesota is able to handle the amount of export capacity from North Dakota that is associated with the proposed Project. This segment is already operating above capacity.[307]

308. Sufficient rail tanker car capacity does not now exist to transport the incremental annual capacity to be provided by the Project. There are two significant constraints on the supply of tank cars for shipping crude oil in the near-term: a market constraint and a regulatory constraint.[308]

309. The market constraint is that current demand for the tank cars that are capable of shipping crude oil is so robust that a would-be purchaser must wait between 15 and 18 months for delivery of a railcar. Demand for tank cars far outstrips the available supply.[309]

310. Likewise, the federal design standards for such rail cars is in a state of flux. The Department of Transportation, Office of Pipeline Safety, Pipeline and Hazardous Material Safety Administration's (PHMSA) has issued an Advanced Notice

---

[303] *Id*.

[304] Ex. 80, at 20 (EERA Report).

[305] Ex. 3, Part 7853.0540, p. 9-10 (Revised CN Application); Ex. 50 at 70, n. 8 (Heinen Direct).

[306] Ex. 3, Part 7853.0540, p. 9-10 (Revised CN Application).

[307] Ex. 50 at 69-70 (Heinen Direct).

[308] Evid. Hr'g Tr. Vol. 4 at 43:19 – 47:15 (Rennicke).

[309] Ex. 3, Part 7853.0540, at 11 (Revised CN Application); Ex. 32, at 28:771-777 (Rennicke Rebuttal).

of Proposed Rulemaking on the features of railcars that transport "flammable liquids" – like crude oil – but that rulemaking is not yet complete.[310]

311. Because PHMSA has "co-propos[ed] three different options for tank car standards," there is considerable uncertainty as to which design requirements tank cars will be required to meet in the future.[311]

312. Federal regulators may choose to significantly reduce the carrying capacity of railcars that transport crude oil. Such a possibility adds to the potential costs and risks of a rail alternative.[312]

(b) Cost of the Rail Alternative

313. Using a 2013 estimate of new-build prices of between $139,000 and $143,000 for a 600-barrel insulated tank car, NDPC projected that the purchase of a fleet of 2,052 tank cars would require $285.2 million in up-front, capital costs.[313]

314. The estimate further projected that this same fleet would require replacement two to three times over the expected life of the Project.[314]

315. Because of the changes to tank car design standards now being considered by PHMSA it is more likely that these estimates significantly understate the true costs of purchasing the needed rail cars. As noted above, the estimate is based upon rail cars that were in service, and authorized for transporting flammable liquids in 2013. It is not at all clear that such cars would be permitted to deliver oil, or commercially-available, in 2017.[315]

316. The cost of shipping equivalent quantities of crude oil from North Dakota by rail is significantly more expensive than transporting the same quantities through the proposed pipeline. The cost of shipping oil to Chicago, Illinois, is $4.32 more per barrel when transported by railcar than it would be if transported over the proposed pipeline. Similarly, the costs of transporting a barrel of oil to Patoka, Illinois, is $3.70 more expensive, and $4.14 more expensive when sent to Cushing, Oklahoma, respectively, over the costs of pipeline shipments to these same refinery hubs. Based upon the Project's incremental capacity of 225,000 bpd over Line 81, the additional transportation

---

[310] *See, Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains*, 79 Fed. Reg. 45016, 45,052 - 45,068 (August 1, 2014) (*Tank Car Standards*); Ex. 32, at 6:188 – 7:232 (Rennicke Rebuttal).

[311] *Id.* at 45,018-19; Evid. Hr'g Tr. Vol. 4 at 44:3 – 47:15 (Rennicke).

[312] *Tank Car Standards, supra,* at 45,054; Ex. 32, at 28:765-770 (Rennicke Rebuttal).

[313] Ex. 3, Part 7853.0540, at 11 (Revised CN Application); Ex. 50 at 67:1-4 (Heinen Direct).

[314] Ex. 3, Part 7853.0540, at 12 (Revised CN Application); Ex. 50 at 67:7-9 (Heinen Direct).

[315] *See Tank Car Standards, supra,* at 45,052 - 45,068; Ex. 32, at 6:188-196 and 19:546-553 (Rennicke Rebuttal); Evid. Hr'g Tr. Vol. 4 at 44:3 – 45:18 (Rennicke).

costs of rail transport to Chicago would be $972,000 per day, or approximately $350,000,000 per year.[316]

317. DOC-EERA estimates that under a rail alternative at least four loading and off-loading terminals would need to be constructed in order to transfer oil to and from rail cars. These facilities would be required in Beaver Lodge, North Dakota; Berthold, North Dakota; Clearbrook, Minnesota; and Superior, Wisconsin. DOC-EERA projected that each facility would cost between $85 and $125 million to construct.[317]

318. Absent significant and wholly unforeseeable increases in rail infrastructure and rail capacity, the export of crude oil by rail from North Dakota will continue to lag far behind the growth in oil production.[318]

(c) Effect of the Rail Alternative on the Natural Environment

319. Among the impacts the rail alternative would have upon the natural environment are habitat and wetland loss during construction, loss of natural features under new rail track and terminal stations, and fugitive emissions during near-continuous train engine operation.[319]

320. Pipeline transportation incurs far lower labor and energy costs and produces fewer greenhouse gas emissions than rail transport.[320]

(d) Effect of the Rail Alternative on the Socioeconomic Environment

321. Because the rail alternative assumes that similar quantities of oil would be transported aboard railroad tank cars, the alternative would exacerbate levels of rail congestion in Minnesota.[321]

322. The levels of rail congestion occurring now in Minnesota adversely impact the movement of rail-dependent commodities, passenger trains, and automobile traffic near rail corridors.[322]

---

[316] Ex. 50, at 67:13-23 (Heinen Direct).

[317] Ex. 80, at 21 (EERA Report).

[318] Ex. 50, at 70:6-8 (Heinen Direct).

[319] Ex. 11, at 6:197-7:207 (Ploetz Direct).

[320] Ex. 3, Part 7853.0240, at 4-5 (Revised CN Application).

[321] Ex. 15, Schedule 2, at 24-32 (Rennicke Direct); Ex. 32, at 21:597 – 24:693.

[322] Ex. 15, Schedule 2, at 24-31 (Rennicke Direct); *see also,* Bemidji Tr. at 66-68 (Osmonson); St. Paul Tr. at 71-72 (Busselman); St. Paul Tr. at 32-34 (Schulte).

323. Rail congestion has resulted in low coal stockpiles and shortages of iron ore. For example, Minnesota Power reported that shortages in coal supplies have followed from these rail delays.[323]

324. Rail congestion caused by increases in the number of shipments of crude oil by railroad has made it more difficult for producers of agricultural commodities to move their products to market.[324]

325. Rail congestion has increased the financial risks of Minnesota farmers while reducing their access to agricultural inputs and export markets.[325]

326. A study commissioned by the Soybean Council and the Minnesota Department of Agriculture concluded that Minnesota farmers lost approximately $99.3 million in March, April, and May 2014, due to lack of access to rail transportation.[326]

327. Likewise problematic, it is likely that new federal safety regulations will both reduce the speed that trains carrying crude oil may travel and restrict the routes that these trains may use. These restrictions are likely to exacerbate congestion problems on Minnesota's rail network.[327]

(e) Reliability

328. In northern climates the reliability of oil shipments by rail can be impaired by winter storms, spring road restrictions, and other road capacity restrictions. This is because tanker trucks are often a part of the supply chain of oil stocks from the well head to the train terminal.[328]

329. Where pipelines are available, pipelines have lower costs, have fewer service disruptions, and result in fewer discharges of oil than shipping the same oil aboard rail cars.[329]

---

[323] *See e.g.,* Duluth Tr. 30 (Norr); Ex. 32, at 22:616-620 (Rennicke Rebuttal).

[324] Ex. 201, at 2:33-3:78 (Younggren Direct).

[325] Ex. 32, at 23:652 – 24:693 (Rennicke Rebuttal); Ex. 201, at 4:103-5:140 (Younggren Direct); Public Hearing Exhibit 2, at 5.

[326] Ex. 15, Schedule 2, at 26; Ex. 201, at 6:143-161 (Younggren Direct).

[327] Ex. 32, at 28:806-811 (Rennicke Rebuttal).

[328] Ex. 3, Part 7853.0540, at 5 (Revised CN Application).

[329] Ex. 7, at 11:323-326 (Steede Direct); Ex. 15, Schedule 2, at 13 and 45-48 (Rennicke Direct); Ex. 32, at 28:781-789 and 29:829-836 (Rennicke Rebuttal).

3. The Truck Alternative

(a) Size, Type and Timing of the Alternative

330. In order to transport 375,000 barrels of crude oil per day, a fleet of 4,354 tanker trucks would be required.[330]

331. The hearing record does not establish that such a fleet capacity now exists or would be available in the near term.[331]

332. Even if a sufficient number of trucks were available, extensive truck loading and offloading terminal facilities would have to be constructed at Beaver Lodge, North Dakota; Berthold, North Dakota; Clearbrook, Minnesota; and Superior, Wisconsin.[332]

333. The hearing record does not establish that there are private firms, in the trucking business or otherwise, that are willing to establish the needed facilities.[333]

(b) Cost of the Truck Alternative

334. To obtain a fleet of 4,354 tanker trucks would require an upfront capital cost of $870,800,000. Because the useful life of a tanker truck is shorter than the proposed pipeline, over the course of the useful life of the Project such a trucking fleet would need to be purchased six times.[334]

335. The annual operating cost, for wages only, of the trucking fleet is approximately $384,500,000.[335]

336. The economic costs over 30 years for this alternative are significantly higher than the proposed Project.[336]

337. Additionally, the activities of such a large fleet would result in significant, untoward impacts to the public roadways and oblige large road maintenance expenses.[337]

---

[330] Ex. 3, Part 7853.0540, at 6-7 (Revised CN Application).

[331] *Id.* Part 7853.0540, at 5-7 (Revised CN Application).

[332] *Id.* at 6-7.

[333] *Id*. at 5-8.

[334] *Id.* at 8; Ex. 50, at 65:1-11 (Heinen Direct).

[335] Ex. 3, Part 7853.0540, at 8 (Revised CN Application); Ex. 50, at 65:7-8 (Heinen Direct).

[336] Ex. 50, at 65:18-19 (Heinen Direct).

[337] Ex. 3, Part 7853.0540, at 5-8 (Revised CN Application).

(c) Effect of the Truck Alternative on the Natural Environment

338. Environmental impacts from the trucking alternative would include fugitive emissions from thousands of semi-tractors in near-continuous operation and the impacts from construction of new truck unloading facilities.[338]

339. The truck alternative would require approximately 577,247,500 vehicle miles per year. Assuming that a tanker truck would average between 4 and 8 miles per gallon of gasoline, the entire fleet would consume between 72,155,937 and 144,311,875 gallons of fuel each year. Consumption of this amount of gasoline would produce 1,101,800 tons of greenhouse gases per year through diesel combustion.[339]

(d) Reliability of the Truck Alternative

340. The trucking alternative would be less reliable than the Project because truck traffic is often impacted by weather conditions, mechanical failure, driver shortages, and road closures.[340]

341. In addition, trucks have a higher rate of accidents than pipelines. These accidents imperil public safety near the site of the incident and the broader oil delivery schedule.[341]

4. The System Alternatives

342. By the close of a public comment period that ended on May 30, 2014, the Commission received a series of alternative proposals for shipping oil. The principal object of these proposals was to route oil shipments from North Dakota to points east of Duluth, Minnesota, while not crossing high-value waters and lands in North Central Minnesota. As the DOC-EERA well-summarized at the time:

> A system alternative is an alternate that proposes a different configuration of pipelines for moving oil from the Williston Basin than the Applicant's proposal. It is a wholly separate or independent route from the Applicant's proposed route and is, in essence, a different project than the one proposed by the applicant.
>
> Enbridge is requesting a route permit to transport oil produced in North Dakota to the terminals in Clearbrook, Minnesota, and Superior, Wisconsin. Minnesota Rule 7852.0100, subpart 31, defines a route as 'the proposed location of a pipeline between two end points.' In this docket,

---

[338] *Id.* at 6-7; Ex. 11, at 6:192-195 (Ploetz Direct).

[339] Ex. 80, at 36 (EERA Report).

[340] Ex. 3, Part 7853.0540, at 8 (Revised CN Application).

[341] *Id*.

> Enbridge has requested a route from the North Dakota border to Clearbrook and from Clearbrook to Superior. Thus, the project, for route permit application purposes, is defined by these three points.
>
> However, eight alternatives proposed during the comment period do not connect with one or more of these three points. The proposed system alternatives include routing the pipeline far north or far south of the applicant's proposed route. None of the system alternatives would connect to the new Clearbrook terminal. Three of the system alternatives do not connect into Enbridge's Superior Terminal.[342]

343. The Commission determined that further analysis of six of the eight system alternatives would be valuable additions to the hearing record. At the Commission's request, DOC-EERA conducted a high-level environmental analysis of the Project and each of these system alternatives. DOC-EERA established two-mile wide Study Area analysis corridors around the general location of each alternative.[343]

344. In addition, NDPC completed an environmental, engineering and cost review of each system alternative (SA-03, SA-04, SA-05, SA-06, SA-07, SA-08 and SA-08) and "System Alternative 3 as modified."[344]

(a) Size, Type and Timing of the SA-03 Alternative

345. SA-03 was suggested by the Minnesota Pollution Control Agency (MPCA) as a system alternative to avoid the lakes areas crossed by NDPC's Preferred Route. Additionally, by proposing a new terminal in the Crookston area, MPCA endeavored to provide routing flexibility for future pipeline projects – presumably in ways that likewise avoided the central lakes region.[345]

346. As MPCA argued in its comments in support of the SA-03 Alternative:

> An Alternative that avoids or impacts fewer sensitive ecosystems and water bodies than SA-Applicant will have a smaller likelihood of incurring significant response costs. As documented by the U.S. Environmental Agency (USEPA), it costs considerably more to restore or rehabilitate water quality than to protect it. The areas of the state traversed by the SA-Applicant have waters and watersheds that are currently subject to protection in the state's 'Watershed Restoration and Protection Strategy' program, financed through the Clean Water Fund and aided by significant volunteer participation of Minnesota citizens. By keeping these waters as clean as possible before they become impaired, extensive costs of

[342] EERA Staff Comments and Recommendations, MPUC Docket No. PL-6668/PPL-13-374, at 12-13 (July 16, 2014) (eDocket No. 20147-101573-01) (Staff Comments).

[343] Ex. 80, at 12-13 (EERA Report).

[344] Ex. 17, at 5:100-102 (Eberth Rebuttal).

[345] Staff Comments, *supra*, at 13; Ex. 80, at 41-42 (EERA Report).

> restoring waters to state standards can be avoided. Location of oil pipelines in these areas place their pristine waters at risk, and also place potentially millions of dollars in state and federal funds allocated for protection of these areas at risk.[346]

347. SA-03 begins in Tioga, North Dakota, at the Beaver Lodge Station and follows the Preferred Route east into Minnesota. Just west of Crookston, Minnesota, it turns south and follows the Viking Pipeline. In Clay County, Minnesota, SA-03 continues southeast following the Viking Pipeline toward North Branch, Minnesota. It then turns north to Superior, Wisconsin, following existing pipeline corridors.[347]

348. SA-03 is approximately 700 miles long. It crosses 11 counties in North Dakota, 14 counties in Minnesota, and one county in Wisconsin.[348]

349. SA-03 would not utilize NDPC's proposed Clearbrook West Terminal. Instead, it would place this terminal in the environs of Crookston, Minnesota.[349]

350. If the new Clearbrook terminal proposed by NDPC were moved westward to the Crookston area, as urged by MPCA, a pipeline would be required to extend from the Crookston terminal to Clearbrook in order to provide oil to MinnCan and Minnesota Pipeline for transport to refineries in the Twin Cities. SA-03 does not provide for a connection to a terminal in Clearbrook.[350]

(b) Cost of the SA-03 Alternative

351. SA-03 would require approximately 70 additional miles of 30-inch pipe, resulting in an increased cost of approximately $172 million. Additionally, SA-03 would require one new pump station and four new pumps, at a cost of approximately $38 million. The combined additional construction costs for SA-03 are approximately $210 million.[351]

352. On a percentage basis, SA-03 represents an 8 percent addition to Project costs of $2.6 billion.[352]

353. For uncommitted shippers that send oil shipments to Superior, Wisconsin, these firms would pay an incremental toll of $0.33 per barrel. Applying these per barrel

---

[346] MPCA Comments, at 3 (Jan. 23, 2015) (citations omitted) (eDocket No. 20151-106572-01) (MPCA Comments).

[347] Ex. 80, at 41-42 (EERA Report).

[348] *Id*.

[349] Staff Comments, *supra*, at 14.

[350] *Id*.

[351] Ex. 17, Schedule 1, at 32 (Eberth Rebuttal).

[352] *See id*.

costs across a 30-year project life, shippers nominating oil shipments for delivery in Superior would pay an incremental cost of approximately $1.35 billion.[353]

354. Because the distance to Clearbrook is shorter than to Superior, the incremental toll to Clearbrook is estimated to be $0.14 per barrel. Using the same formula, across the volume of oil nominated for delivery to Clearbrook, shippers would pay an additional $92 million over a 30-year timeframe.[354]

355. The impact on the committed tolls would be directionally consistent with the impact on the uncommitted tolls.[355]

356. In addition to the incremental tolls, shippers on SA-03 would also have to provide additional line-fill volumes of approximately 338,000 barrels for deliveries at Superior. For the 60 miles between Crookston and Clearbrook, Clearbrook shippers would have to provide an additional 51,700 barrels of crude oil for line fill on Line 81. Line fill barrels must remain in the pipeline as working stock, which prevents shippers from entering into transactions on those barrels while they remain in the pipe.[356]

357. At an estimated crude oil price of $45.00 per barrel, this equates to a financial investment of $15.24 million for Superior shippers and $2.34 million for Clearbrook shippers.[357]

358. In addition, with a longer pipeline, shippers will face higher costs as a result of increased transit time. The SA-03 Alternative would increase transit time to Minnesota refineries by approximately one day, approximately a 50 percent increase in the time it now takes for Enbridge to deliver a barrel of oil to Clearbrook.[358]

359. Lastly, the daily power consumption for the SA-03 Alternative is much higher than the Sandpiper Preferred Route, requiring an additional 99 megawatt-hour (MWh) per day. This added consumption would total 36,160 MWh per year. The SA-03 Alternative has daily power costs of $6,930 per day more than the Preferred Route.[359]

(c) Effect of the SA-03 Alternative on the Natural Environment

360. The SA-03 Study Area contains more cities (including North Branch, Cambridge, Little Falls, and Detroit Lakes), more developed land, more residents, and

---

[353] *Id.*; Ex. 19, at 3:93-4:115 (Glanzer Rebuttal).

[354] *Id*.

[355] *Id*.

[356] Ex. 17, Schedule 1, at 32-33 (Eberth Rebuttal); Ex. 19, at 4:106-115 (Glanzer Rebuttal).

[357] *See generally,* Ex. 17, Schedule 1, at 32-33 (Eberth Rebuttal); Ex. 19, at 4:106-115 (Glanzer Rebuttal).

[358] Ex. 19, at 4:117-24 (Glanzer Rebuttal).

[359] Ex. 17, Schedule 1, at 32 (Eberth Rebuttal).

more structures than the Preferred Route Study Area. It also contains more watersheds, more miles of water bodies, more streams, more wells, more aquifer, and more important federal and state resources.[360]

361. MPCA maintained that SA-03 was a better alternative than the proposed Project because it had "fewer potential impacts to the highest quality surface waters and other natural resources in the state of Minnesota than SA-Applicant." It argued:

> Based on watershed health scores as determined by the Minnesota Department of Natural Resources in its Watershed Health Assessment Framework, MPCA documented that the adverse impacts to overall water quality from construction and operation, as well as spill cleanup and response, of Applicant's Alternative were more harmful than alternatives including SA-03, SA-04, and SA-05.[361]

362. Yet, because of the features within the SA-03 Study Area, the SA-03 Alternative would likely require installing the pipeline in congested residential and business areas in and near Detroit Lakes, Little Falls, Milaca, Cambridge, North Branch and Rush City. Routing the line in these areas would include construction in very constricted workspaces, and over and between several other utility lines. As Paul Eberth of NDPC testified:

> With several existing natural gas lines in these areas, much of the optimal routing has already been developed, and with the addition of recent significant commercial and residential growth, there is limited space for an additional pipeline or utility. The town of Cambridge also contains a chain of lakes near the east side of the city with no potential for avoiding residences due to the residential and commercial development around the lake.
>
> Within the city of North Branch, there are several large residential developments with 100+ homes covering large expanses of land. The SA-03 Study Area through North Branch also encompasses schools, churches, and two shopping mall complexes, all of which would need to be closed or altered to accommodate construction through their properties.[362]

363. The SA-03 Study Area contains more Wellhead Protection Areas (WHPAs) and Drinking Water Supply Management Areas (DWSMAs) than the Preferred Route Study Area. In addition, the SA-03 Study Area contains more wells. Minn. R. ch. 4725 (2013) requires a buffer between residential wells and petroleum pipelines.

---

[360] Ex. 17, at 7:145-50 (Eberth Rebuttal); Ex. 17, Schedule 1, at 16 (Eberth Rebuttal).

[361] MPCA Comments, *supra,* at 7 and 14.

[362] Ex. 17, Schedule 1, at 31 and 35 (Eberth Rebuttal).

The higher count of wells located within the SA-03 Study Area would present more potential routing difficulties than the Preferred Route Study Area.[363]

364. The SA-03 Study Area contains more federally-owned and administered lands than the Preferred Route Study Area, including the United States Fish and Wildlife Service (USFWS) Crane Meadows National Wildlife Refuge, and land within the Fergus Falls Wetland Management District.[364]

365. The SA-03 Study Area also contains more acres of prime farmland, including lands that would be prime farmland if drained, irrigated, and protected.[365]

366. The SA-03 Study Area crosses more watersheds than the Preferred Route Study Area. Within these watersheds, the SA-03 Study Area contains more miles of National Hydrology Dataset (NHD) water bodies and streams that are listed on the PWI.[366]

367. Both Study Areas contain similar acreage of National Wetlands Inventory (NWI) wetlands. The majority of wetlands within the SA-03 Study Area are classified as emergent, while the majority of wetlands within the Preferred Route Study Area are classified as forested/shrub. The SA-03 Study Area contains more acres of wetlands and basins that are listed on the PWI than the Preferred Route Study Area, as well as fewer acres of shallow lakes.[367]

368. Because of the power needed to operate the additional pump station required by SA-03, operation of a route within the SA-03 Study Area would generate more indirect emissions, such as greenhouse gases. Daily greenhouse gas emissions would increase by 68 metric tons of CO_2 per day, totaling 24,950 metric tons per year, more than the proposed Project.[368]

(d) Effect of the SA-03 Alternative on the Socioeconomic Environment

369. Because of the greater pipeline development costs, operating costs, and likely toll surcharges associated with the SA-03 Alternative, it is not clear from the hearing record whether NDPC, or others, would be willing to construct such a pipeline.

---

[363] *Id.* at 24 (Eberth Rebuttal).

[364] *Id.* at 17-18 (Eberth Rebuttal).

[365] *Id*.

[366] *Id.* at 23 (Eberth Rebuttal).

[367] *Id*.

[368] *Id.* at 28 and 32 (Eberth Rebuttal); Ex. 19, at 2:60-67 (Glanzer Rebuttal).

Likewise, it is not clear that there are customers willing to ship on a SA-03 Alternative if it were constructed.[369]

370. DOC-DER assumes that so long as the price per barrel transportation cost of a pipeline system alternative is lower than the cost of transporting the same barrel of oil by railroad, NDPC, or another company, will seek to construct and operate an SA-03 Alternative or an SA-03-AM pipeline.[370]

371. For the reasons detailed in Section V.B.12 (Relative Risk and Benefits Among Alternatives) below, that is an uncertain and doubtful proposition.[371]

372. The SA-03 Alternative would have later in-service dates than the proposed Project because additional time would be needed to conduct the detailed routing, environmental analysis and landowner outreach that have been completed as to the proposed Project.[372]

373. This delay in the in-service date would result in additional rail traffic and economic harm to shippers.[373]

(e) Reliability of the SA-03 Alternative

374. The SA-03 Alternative offers less reliable service options to Minnesota refineries than the proposed Project. This is because the SA-03 Alternative does not connect to Clearbrook or the MPL System.[374]

375. A key feature of the SA-03 Alternative is development of an oil delivery terminal in Crookston, Minnesota.[375]

376. Moving the terminal to Crookston will likely result in the migration of oil traffic that is bound for Superior, Wisconsin, off of Line 81, at the new Crookston terminal, and on to the new pipeline. This is because under the SA-03 Alternative, the

---

[369] Ex. 18, at 6:160- 7:163-67 (Earnest Rebuttal); Ex. 21, at 5:147-54 (MacPhail Rebuttal); Ex. 54, at 46:16-17 (Heinen Surrebuttal); Evid. Hr'g Tr. Vol. 2, at 58:18 - 62:19, 63:23 - 64:17, 67:15-19 (MacPhail); Evid. Hr'g Tr. Vol. 3, at 56:3-4 (Palmer) ("Your Honor, I guess I can only say that we're not interested in SA-03.").

[370] *See generally,* Ex. 50, at 39:10-15 and 116:19 – 117:20 (Heinen Direct); Ex. 54, at 46:19 – 49:2 (Heinen Surrebuttal).

[371] *See* Section V.B.12, *infra*.

[372] *See,* Evid. Hr'g Tr. Vol. 2, at 104:6-15 (MacPhail); Evid. Hr'g. Tr. Vol. 4, at 89:13-17, 102:20-24 and 141:17-142:16 (Simonson); Vol. 5, at 93:15 – 94:-18 (Ploetz).

[373] Ex. 8, at 3:91 - 5:144 (Glanzer Direct); Evid. Hr'g Tr. Vol. 2, at 58:18 - 59:9 and 59:21 – 60:21 (MacPhail); Enerplus Comments, *supra*, at 2-3.

[374] Ex. 20, at 10:302-14:417 (Steede Rebuttal).

[375] *See* Staff Comments, *supra*, at 13-14; Ex. 20, 10:300-322 (Steede Rebuttal).

only route to Superior, Wisconsin, from Crookston, Minnesota, would be along the new line.[376]

377. Today, the volume of oil traffic moving along Line 81 is fairly steady. This is because the "line volume" includes oil that could be either shipped east of Clearbrook on the Enbridge Mainline System or south of Clearbrook through the MPL system. Because the terminus of Line 81 is in Clearbrook, Minnesota, the line volumes before that end point can be steady and regulated for efficient transportation.[377]

378. However, if one were to split the quantities that travel along Line 81 in Crookston, Minnesota, it would mean that the pressure in the portion of pipeline between Crookston and Clearbrook would vary substantially. The pressure needed to move oil in the pipeline would "cycle" as the quantities of oil in this pipeline changed.[378]

379. Pressure cycling follows from changes in the operating pressure of a pipeline – as if one was repeatedly turning the pipeline "on" and "off." Pressure cycling refers to the range of pressure variation that occurs in the pipeline and the frequency of the cycle. The range of a pressure variation is defined as the difference between the peak value and lowest value of the pressure variation. The frequency of the cycle is defined as the period of time that elapses between the identical points in two subsequent cycles.[379]

380. Pressure cycling causes greater pipeline fatigue and impacts pipeline integrity. Pressure cycling has the potential to create and accelerate the growth of cracking features in the walls of a pipeline.[380]

381. Alternating deliveries on Line 81 would result in pressure cycling greater than 750 psi (pounds per square inch) between Crookston and the Brooks station and greater than 700 psi between the Brooks station and the MPL System.[381]

382. Pressure cycling fatigue would prompt approximately 310 integrity digs on Line 81 over the next 7-year period, at a cost of more than $100 million.[382]

383. A complete replacement of this 60-mile segment of Line 81 would cost approximately $145 million.[383]

---

[376] Ex. 50, at AJH 21 (NDPC Response to Information Request No. 5).

[377] Ex. 20, at 12:343-63 (Steede Rebuttal).

[378] *Id.* at 11:334 - 12:363 (Steede Rebuttal).

[379] *Id.* at 11:318-331 (Steede Rebuttal).

[380] *Id.* at 11:334-340 (Steede Rebuttal).

[381] *Id.* at 13:373-380 (Steede Rebuttal).

[382] *Id.* at 13:382-14:387 (Steede Rebuttal).

[383] *Id.* at 14:387-388 (Steede Rebuttal).

5. The Features of the System Alternative 3 – As Modified

(a) Size, Type, and Timing of the SA-03-AM Alternative

384. Because of the attendant problems of not providing a connection to Clearbrook, Minnesota, SA-03-AM was proposed by the DOC-EERA in its July 17, 2014 Comments and Recommendations.[384]

385. From the proposed Clearbrook terminal, SA-03-AM would continue along the Preferred Route southward paralleling the existing MPL rights-of-way. However, rather than turning eastward in Hubbard County just south of the City of Park Rapids, SA-03-AM, would continue south paralleling the MPL System rights-of-way through the counties of Todd, Wadena, and Morrison, until it intersects with the existing 24-inch Viking Natural Gas Pipeline and joins SA-03. SA-03-AM, is approximately 701 miles long and crosses 10 counties in North Dakota, 14 in Minnesota, and 1 in Wisconsin.[385]

386. SA-03-AM is approximately 85 miles longer than the Preferred Route.[386]

387. The SA-03-AM Study Area requires installing the pipeline between homes, public venues, and businesses in congested and developed areas in and around Little Falls, Milaca, Cambridge, North Branch, and Rush City, as well as in very constricted workspaces. In addition, SA-03-AM is more expensive and uses more power.[387]

388. The SA-03-AM Alternative would have later in-service dates than the proposed Project because additional time would be needed to conduct the detailed routing, environmental analysis, and landowner outreach that have been completed as to the proposed project.[388]

389. This delay in the in-service date would result in additional rail traffic and economic harm to shippers.[389]

(b) Cost of the SA-03-AM Alternative

390. The SA-03-AM Alternative requires 85 additional miles of 30-inch pipe. The cost of this material totals $212 million. Additionally, SA-03-AM would require one new pump station to be constructed, along with four new pumps. The cost of these

---

[384] *See* Staff Comments, *supra,* at 17.

[385] Ex. 17, Schedule 1, at page 41 and Appendix 1 (Eberth Rebuttal).

[386] *Id.*, Schedule 1, at 41-58 (Eberth Rebuttal).

[387] Ex. 17, Schedule 1, at 57-59 (Eberth Rebuttal).

[388] *See* Evid. Hr'g Tr. Vol. 2, at 104:6-15 (MacPhail); Evid. Hr'g. Tr. Vol. 4, at 89:13-17, 102:20-24 and 141:17-142:16 (Simonson); Vol. 5, at 93:15 – 94:-18 (Ploetz).

[389] Ex. 8, at 3:91 - 5:144 (Glanzer Direct); Evid. Hr'g Tr. Vol. 2, at 58:18 - 59:9 and 59:21 – 60:21 (MacPhail); Enerplus Comments, *supra*, at 2-3.

additional facilities is $38 million. The combined additional construction costs for SA-03-AM are $250 million.[390]

391. If SA-03-AM were implemented, uncommitted shippers would have to pay an incremental toll of $0.36 per barrel. Assuming a 30-year timeframe, this would amount to an incremental cost to shippers delivering at Superior of approximately $1.47 billion for this Alternative. The impact on the committed tolls would be directionally consistent with the impact on the uncommitted tolls.[391]

392. In addition to the incremental tolls, shippers on SA-03-AM would also have to provide additional line-fill volumes of approximately 368,000 barrels for deliveries. The total incremental cost would come to $16.56 million at an estimated crude price of $45.00 per barrel.[392]

393. SA-03-AM consumes power at a more rapid rate than the proposed Project, requiring an additional 98.5 MWh per day. This added consumption would total 35,977 MWh per year. When reviewing the additional daily power costs, SA-03-AM, costs $6,895 per day more than the Preferred Route.[393]

394. Daily greenhouse gas emissions would increase by 68 metric tons of CO_2 per day, totaling 24,824 metric tons per year, more than the proposed Project.[394]

(c) Effect of the SA-03-AM Alternative on the Natural and Socioeconomic Environments

395. The EERA Report did not address the SA-03-AM Alternative because it was not one of the alternatives discussed in NDPC's Application or included by the Commission for review in this docket.[395]

396. However, NDPC's analysis does address the SA-03-AM Alternative and concluded that it contains a greater density of human and environmental features than the Preferred Route. Specifically, it contains more cities, more developed land, more residents, and more structures. It also contains more watersheds, miles of water bodies, streams, wells, aquifers, and important federal and state resources.[396]

---

[390] Ex. 17, Schedule 1, at 55-56 (Eberth Rebuttal).

[391] Ex. 17, Schedule 1, at 56 (Eberth Rebuttal).

[392] *See generally,* Ex. 17, Schedule 1, at 56 (Eberth Rebuttal).

[393] Ex. 17, Schedule 1, at 56 (Eberth Rebuttal).

[394] Ex. 17, Schedule 1, at 56 (Eberth Rebuttal).

[395] *See* Ex. 80 (EERA Report).

[396] Ex. 17, at 7:152-161 (Eberth Rebuttal).

(d) Reliability of the SA-03-AM Alternative

397. Because of the larger pipeline development costs, operating costs and likely toll surcharges associated with the SA-03-AM Alternative, it is not clear from the hearing record whether NDPC, or others, would be willing to construct such a pipeline. Likewise, it is not clear that there are customers willing to ship on a SA-03-AM Alternative if it were constructed.[397]

6. The Features of the System Alternative 4

398. SA-04 was suggested by the FOH as a system alternative to avoid the lakes areas crossed by NDPC's Preferred Route.[398]

(a) Size, Type and Timing of the SA-04 Alternative

399. SA-04 begins in Tioga, North Dakota, at the Beaver Lodge Station and follows the Preferred Route east to McHenry County, North Dakota. It then turns southeast and follows the Alliance Pipeline and proceeds generally southeast through Minnesota, Iowa, and Illinois to its termination point in Joliet, Illinois. SA-04 is approximately 940 miles long and crosses 15 counties in North Dakota, 1 in South Dakota, 14 in Minnesota, 10 in Iowa, and 8 in Illinois.[399]

400. SA-04 is approximately 940 miles long – 309 miles longer than the Preferred Route.[400]

401. FOH's submissions in support of SA-04 do not include specific pipe sizes, costs, evidence of proposed shipper support, or detailed environmental analysis.[401]

402. FOH's submissions do not indicate where SA-04 terminates or the pipelines with which it would interconnect.[402]

403. Based upon the descriptions that do exist, SA-04 could not deliver crude to markets upstream of Chicago, Illinois, nor reach refineries in Patoka, Illinois.[403]

404. The Preferred Route Study Area provides a shorter, more direct route for the Project; therefore, it is less likely to affect human development and environmental

---

[397] *See* Evid. Hr'g Tr. Vol. 2, at 63:23 - 64:17 and 67:15-19 (MacPhail); Evid. Hr'g Tr. Vol. 3, at 56:15-17 (Palmer).

[398] Staff Comments, *supra*, at 15; Evid. Hr'g Tr. Vol. 7, at 54:24-55:10 (Smith); *See also,* Comments of Elizabeth Baker-Knuttila (January 23, 2015).

[399] Ex. 80, at 42 (EERA Report).

[400] Ex. 17, Schedule 1, at 64-79 (Eberth Rebuttal).

[401] *See, e.g.,* Evid. Hr'g Tr. Vol. 7, at 53:4 - 54:25 and 63:20 - 64:3 (Smith).

[402] Evid. Hr'g Tr. Vol. 7, at 53:4 - 54:25 (Smith); Evid. Hr'g Tr. Vol. 7, at 241:11-19 (Pile)

[403] Evid. Hr'g Tr. Vol. 7, at 56:20 - 58:16 (Smith); Evid. Hr'g Tr. Vol. 7, at 241:11-19 (Pile).

features when compared with the SA-04 Study Area. The substantial increase in route length negatively impacts landowners and businesses, creates a greater environmental footprint, and is not suited to meet shipper demand. It also increases costs, power usage, and greenhouse gas emissions.[404]

405. SA-04 would have a much later in-service date than the proposed Project. Additional time would be needed to conduct the detailed routing, environmental analysis and landowner outreach that have been completed for the proposed Project.[405]

(b) Cost of the SA-04 Alternative

406. When compared to the Preferred Route, the SA-04 Study Area requires 309 additional miles of 30-inch pipe. The cost of this material totals $771 million, which reflects any amounts received for 24-inch pipe that is no longer required if SA-04 is approved. Additionally, SA-04 would require two new pump stations to be constructed, along with nine new pumps. The cost of these additional facilities is $79 million. The combined additional construction costs for SA-04 are $850 million.[406]

407. If SA-04 were implemented, uncommitted shippers would have to pay an incremental toll of $1.37 per barrel. The impact on the committed tolls would be directionally consistent with the impact on the uncommitted tolls.[407]

408. SA-04's daily power consumption is much higher than the Preferred Route, requiring an additional 386.5 MWh per day. This added consumption would total 141,169 MWh per year. When reviewing the additional daily power costs, SA-04 costs $27,055 per day more than the Preferred Route.[408]

(c) Effect of the SA-04 Alternative on the Natural Environment

409. The SA-04 Study Area crosses more counties and cities (including Mankato, Minnesota; Clinton, Iowa; and Joliet, Minooka, and Channahon, Illinois) than the Preferred Route Study Area.[409]

410. The SA-04 Study Area also contains more federally-owned and administered lands than the Preferred Route Study Area, including the United States

---

[404] Ex. 17, Schedule 1, at 80-81 (Eberth Rebuttal).

[405] *See* Evid. Hr'g Tr. Vol. 2, at 104:6-15 (MacPhail); Evid. Hr'g. Tr. Vol. 4, at 89:13-17, 102:20-24 and 141:17-142:16 (Simonson); Vol. 5, at 93:15 – 94:-18 (Ploetz).

[406] Ex. 17, Schedule 1, at 78-79 (Eberth Rebuttal).

[407] *Id.,* Schedule 1, at 79 (Eberth Rebuttal).

[408] *Id*.

[409] *Id.* at 64.

Forest Service (USFS) Sheyenne National Grasslands and land within the National Park Service (NPS) Illinois and Michigan Canal (National Heritage Corridor).[410]

411. The SA-04 Study Area contains more acres of prime farmland than the Preferred Route Study Area.[411]

412. The SA-04 Study Area also crosses more watersheds, impacting more miles of NHD water bodies.[412]

413. In addition, the SA-04 Study Area contains more wells than the Preferred Route Study Area, which would present potential routing difficulties.[413]

414. Because of the two additional pump stations required for SA-04, this project would generate more indirect emissions, including greenhouse gases. Compared to the proposed Project, daily greenhouse gas emissions would increase by 267 metric tons of CO_2 per day, totaling 97,407 metric tons per year.[414]

(d) Reliability of the SA-04 Alternative

415. There is no evidence that NDPC, or any other pipeline operator, would build the SA-04 Alternative.[415]

416. A similar pipeline proposal (the Koch Dakota Express Pipeline), which would have run from North Dakota to Patoka, Illinois, was recently abandoned by its developers.[416]

7. The Features of the System Alternative 5

417. SA-05 was suggested by FOH as a system alternative to avoid the lakes areas crossed by NDPC's Preferred Route.[417]

(a) Size, Type, and Timing of the SA-05 Alternative

418. SA-05 begins in Tioga, North Dakota, at the Beaver Lodge Station and follows the Preferred Route east to McHenry County, North Dakota, where it intersects

---

[410] *Id.* at 65.

[411] *Id.* at 67.

[412] *Id.* at 70.

[413] *Id.* at 71.

[414] *Id.* at 76 and 79.

[415] Evid. Hr'g Tr. Vol. 2, at 63:23 - 64:17 and 67:15-19 (MacPhail); Evid. Hr'g Tr. Vol. 3, at 56:15-17 (Palmer).

[416] Ex. 3, Part 7853.0540, at 5 (Revised CN Application); Ex. 183 at Schedule 4, Part 2 at 31-32 (Smith Surrebuttal).

[417] Staff Comments, *supra*, at 15.

with the Alliance Pipeline and travels southeast to Richland County, North Dakota, where it then turns south and follows the I-29 corridor. In Deuel County, South Dakota, SA-05 intersects with the Northern Border Pipeline and travels southeast across Minnesota and Iowa to Poweshiek County, Iowa, where it intersects with an Enbridge pipeline and continues east through Illinois to its termination point in Joliet, Illinois. SA-05 is approximately 1,000 miles long and crosses 15 counties in North Dakota, 6 counties in South Dakota, 6 counties in Minnesota, 15 counties in Iowa, and 8 counties in Illinois.[418]

419. The SA-05 Alternative is approximately 1,000 miles long – 386 miles longer than the Preferred Route.[419]

420. SA-05 does not connect with the terminals in Clearbrook, Minnesota or Superior, Wisconsin.[420]

421. The Preferred Route Study Area provides a shorter, more direct route for the Project; therefore it is less likely to affect human development and environmental features when compared with the SA-05 Study Area. The SA-05 Alternative also increases costs and power usage.[421]

422. The SA-05 Alternative would have a much later in-service date than the proposed Project. Additional time would be needed to conduct the detailed routing, environmental analysis, and landowner outreach that have been completed for the proposed Project.[422]

(b) Cost of the SA-05 Alternative

423. SA-05 requires 386 more miles of 30-inch pipe than the Preferred Route. The cost of this extra pipe totals $964 million. Additionally, SA-05 would require three new pump stations and 13 new pumps to be constructed. The cost of these additional facilities is $117 million. The combined additional construction costs for SA-05 are $1.08 billion.[423]

424. The increased costs associated with SA-05 will be borne by the shippers. Uncommitted shippers would have to pay an incremental toll of $1.70 per barrel if SA-05

[418] Ex. 80, at 42 (EERA Report).

[419] Ex. 17, Schedule 1, at 78-86 (Eberth Rebuttal).

[420] Staff Comments, *supra*, at 15.

[421] Ex. 17, Schedule 1, at 102-104 (Eberth Rebuttal).

[422] Evid. Hr'g Tr. Vol. 2, at 104:6-15 (MacPhail); Evid. Hr'g. Tr. Vol. 4, at 89:13-17, 102:20-24 and 141:17-142:16 (Simonson); Vol. 5, at 93:15 – 94:-18 (Ploetz).

[423] Ex. 17, Schedule 1, at 101 (Eberth Rebuttal).

were implemented. The impact on the committed tolls would be directionally consistent with the impact on the uncommitted tolls.[424]

425. SA-05 consumes power at a high rate; specifically, it will require 461.2 MWh per day more than the Preferred Route. This added consumption would total 168,453 MWh per year more than the Preferred Route, and would cost $32,284 more per day.[425]

(c) Effect of the SA-05 Alternative on the Natural Environment

426. The SA-05 Study Area crosses more states, counties, and cities than the Preferred Route Study Area. Specifically, unlike the Preferred Route Study Area, the SA-05 Study Area crosses South Dakota, Iowa, and Illinois. It also crosses the cities of Watertown, South Dakota; Fairmont, Minnesota; Iowa City, Iowa; and Joliet, Minooka, and Channahon, Illinois.[426]

427. The SA-05 Study Area crosses more federally owned and administered lands, including the USFWS Dakota Prairie Wildlife Management Area (WMA), USFS Sheyenne National Grasslands, and land within the NPS Illinois and Michigan Canal.[427]

428. In addition, the SA-05 Study Area contains more acres of prime farmland, crosses more watersheds, and contains more miles of NHD water bodies than the Preferred Route Study Area. It also contains more wells.[428]

429. Further, because of the three additional pump stations required for SA-05, this Alternative would generate more indirect emissions, including greenhouse gases. In comparison to the proposed Project, SA-05 would increase daily greenhouse gas emissions by 318 metric tons of CO_2 per day, totaling 116,233 metric tons per year.[429]

(d) Reliability of the SA-05 Alternative

430. There is no evidence that NDPC or any other pipeline operator would construct the SA-05 Alternative.[430]

---

[424] *Id.* at 101.

[425] *Id.*

[426] *Id.* at 86.

[427] *Id.* at 88.

[428] *Id.* at 89 and 93.

[429] *Id.* at 98-101.

[430] Evid. Hr'g Tr. Vol. 2, at 63:23 - 64:17 and 67:15-19 (MacPhail); Evid. Hr'g Tr. Vol. 3, at 56:13-17 (Palmer).

431. A similar pipeline proposal (the Koch Dakota Express Pipeline), which would have run from North Dakota to Patoka, Illinois, was recently abandoned by its developers.[431]

8. The Features of the System Alternative 6

432. SA-06 was suggested by FOH as a system alternative to avoid the lakes areas crossed by NDPC's Preferred Route.[432]

(a) Size, Type, and Timing of the SA-06 Alternative

433. SA-06 begins in Tioga, North Dakota, at the Beaver Lodge Station and follows the Preferred Route east to Grand Forks County, North Dakota, where it follows a railroad corridor southeast to Wahpeton, North Dakota. It then travels southeast along Minnesota Highway 9 until it intersects with the Alliance Pipeline and continues southeast to just southwest of Willmar. It then turns east and continues southeast towards the Twin Cities metropolitan area where it intersects with the MinnCan Pipeline and continues to the vicinity of the Flint Hills Refinery in Rosemount. It then turns north and follows existing pipelines to North Branch, where it continues to travel north following Interstate 35 to Carlton County. It then generally turns east and follows the Preferred Route to Superior, Wisconsin.[433]

434. SA-06 is approximately 800 miles long and crosses 14 counties in North Dakota, 18 counties in Minnesota, and 1 county in Wisconsin.[434]

435. SA-06 does not connect with the terminal in Clearbrook, Minnesota, but does connect with the terminal in Superior, Wisconsin.[435]

436. In its route to the Superior, Wisconsin terminal, SA-06 is 187 miles longer than the Preferred Route.[436]

437. The substantial increase in route length negatively impacts landowners and businesses and creates a greater environmental footprint. It also increases costs and power usage.[437]

438. The SA-06 Alternative would have a much later in-service date than the proposed Project. Additional time would be needed to conduct the detailed routing,

---

[431] Ex. 3, Part 7853.0540, at 5 (Revised CN Application); Ex. 183 at Schedule 4, Part 3 of 3 (Smith Surrebuttal).

[432] Staff Comments, *supra*, at 15.

[433] Ex. 80, at 42 (EERA Report).

[434] *Id.* at 42.

[435] Staff Comments, *supra*, at 15.

[436] Ex. 17, Schedule 1, at 109 (Eberth Rebuttal).

[437] *Id.* at 126-27.

environmental analysis, and landowner outreach that have been completed for the proposed Project.[438]

(b) Cost of the SA-06 Alternative

439. When compared to the Preferred Route, SA-06 requires 187 additional miles of 30-inch pipe. The cost of this material totals $468 million. Additionally, SA-06 would require two new pump stations to be constructed along with eight new pumps. The cost of these additional facilities is $76 million. The combined additional construction costs for SA-06 are $544 million.[439]

440. If SA-06 were implemented, uncommitted shippers would have to pay an incremental toll of $0.84 per barrel. The impact on the committed tolls would be directionally consistent with the impact on the uncommitted tolls.[440]

441. SA-06's daily power consumption is much higher than the Preferred Route, requiring an additional 227.6 MWh per day. This added consumption would total 83,131 MWh per year. When reviewing the additional daily power costs, SA-06 costs $15,932 per day more than the Preferred Route.[441]

(c) Effect of the SA-06 Alternative on the Natural Environment

442. The SA-06 Study Area crosses more counties, cities, and population centers than the Preferred Route Study Area. Specifically, the SA-06 Study Area crosses the following cities: Cottage Grove, Farmington, Forest Lake, Hugo, Lake Elmo, North Branch, Rosemount, Stillwater, Willmar, Woodbury, and Wyoming.[442]

443. The SA-06 Study Area also contains more federally-owned and administered lands, including the USFWS Dakota Tallgrass Prairie WMA and land within the NPS Mississippi National River and Recreation Area.[443]

444. In addition, the SA-06 Study Area contains more acres of prime farmland, crosses more watersheds, contains more miles of NHD water bodies, and contains more miles of PWI streams than the Preferred Route Study Area.[444]

---

[438] *See* Evid. Hr'g Tr. Vol. 2, at 104:6-15 (MacPhail); Evid. Hr'g. Tr. Vol. 4, at 89:13-17, 102:20-24 and 141:17-142:16 (Simonson); Vol. 5, at 93:15 – 94:-18 (Ploetz).

[439] Ex. 17, Schedule 1, at 125 (Eberth Rebuttal).

[440] *Id.*

[441] *Id*.

[442] *Id.* at 109.

[443] *Id.* at 110.

[444] *Id.* at 112 and 116.

445. The SA-06 Study Area also contains more WHPAs, DWSMAs, and wells than the Preferred Route Study Area.[445]

446. Because of the two additional pump stations required for SA-06, this Alternative would generate more indirect emissions, such as greenhouse gases. In comparison to the proposed project, SA-06 would increase daily greenhouse gas emissions by 157 metric tons of CO_2 per day, totaling 57,360 metric tons per year.[446]

(d) Reliability of the SA-06 Alternative

447. There is no evidence that NDPC or any other pipeline operator would construct the SA-06 Alternative.[447]

9. The Features of the System Alternative 7

448. SA-07 was suggested by FOH as a system alternative to avoid the lakes areas crossed by NDPC's preferred route.[448]

(a) Size, Type, and Timing of the SA-07 Alternative

449. SA-07 begins in Tioga, North Dakota, at the Beaver Lodge Station and follows the Preferred Route east to Grand Forks, North Dakota, where it intersects with the I-29 corridor and travels south to Fargo, North Dakota. It then continues traveling southeast along the Magellan Pipeline corridor toward Alexandria, Minnesota. At Alexandria, it turns south toward Willmar, and then turns southeast toward the Twin Cities metropolitan area where it intersects with the MinnCan Pipeline and continues to the vicinity of the Flint Hills Refinery in Rosemount. It then turns north and follows existing pipelines to North Branch, where it continues north following Interstate 35. It then continues to Carlton County before turning generally east and following the Preferred Route to Superior, Wisconsin.[449]

450. SA-07 is approximately 810 miles long and crosses 12 counties in North Dakota, 21 counties in Minnesota, and 1 county in Wisconsin.[450]

451. SA-07 is 194 miles longer than the Preferred Route.[451]

---

[445] *Id.* at 117.

[446] *Id.* at 121-25.

[447] Evid. Hr'g Tr. Vol. 2, at 63:23 - 64:17 and 67:15-19 (MacPhail); Evid. Hr'g Tr. Vol. 3, at 56:13-17 (Palmer).

[448] Staff Comments, *supra*, at 15; Evid. Hr'g Tr. Vol. 7, at 49:3 – 50:19 (Smith).

[449] Ex. 80, at 43 (EERA Report).

[450] *Id*.

[451] Ex. 17, Schedule 1, at 133 (Eberth Rebuttal).

452. The substantial increase in route length negatively impacts landowners and businesses and creates a greater environmental footprint. SA-07 also increases costs and power usage.[452]

453. The SA-07 Alternative would have a much later in-service date than the proposed Project. Additional time would be needed to conduct the detailed routing, environmental analysis, and landowner outreach that have been completed for the proposed Project.[453]

(b) Cost of the SA-07 Alternative

454. SA-07 requires 194 more miles of 30-inch pipe than the Preferred Route, which totals $486 million in additional cost. SA-07 would also require two new pump stations and eight new pumps to be constructed. The cost of these additional facilities is $76 million. The combined additional construction costs for SA-07 are $562 million.[454]

455. If SA-07 were implemented, uncommitted shippers would have to pay an incremental toll of $0.85 per barrel. The impact on the committed tolls would be directionally consistent with the impact on the uncommitted tolls.[455]

456. SA-07's daily power consumption is much higher than the Preferred Route, requiring an additional 226 MWh per day. This added consumption would total 82,547 MWh per year. When reviewing the additional daily power costs, SA-07 costs $15,820 per day more than the Preferred Route.[456]

(c) Effect of the SA-07 Alternative on the Natural Environment

457. The SA-07 Study Area crosses more counties, cities and population centers than the Preferred Route. Specifically, the SA-07 Study Area crosses the following cities: Alexandria, Cottage Grove, Farmington, Fergus Falls, Forest Lake, Hugo, Moorhead, North Branch, Rosemount, Stillwater, Willmar, Woodbury, Lake Elmo, and Woodbury, Minnesota; and Fargo, North Dakota.[457]

458. The SA-07 Study Area also contains more federally-owned and administered lands than the Preferred Route Study Area, including lands within the NPS

---

[452] *Id*.

[453] *See* Evid. Hr'g Tr. Vol. 2, at 104:6-15 (MacPhail); Evid. Hr'g. Tr. Vol. 4, at 89:13-17, 102:20-24 and 141:17-142:16 (Simonson); Vol. 5, at 93:15 – 94:-18 (Ploetz).

[454] Ex. 17, Schedule 1, at 149 (Eberth Rebuttal).

[455] *Id*.

[456] *Id*.

[457] *Id*. at 133.

Mississippi National River and Recreation Area, and a large amount of land within USFWS Waterfowl Production Areas.[458]

459. In addition, the SA-07 Study Area contains more acres of prime farmland, crosses more watersheds, crosses more miles of NHD water bodies and PWI streams, and contains more acres of NWI wetlands.[459]

460. Because of the two additional pump stations required for SA-07, this Alternative would generate more indirect emissions, such as greenhouse gases. In comparison to the proposed Project, SA-07 would increase daily greenhouse gas emissions by 156 metric tons of CO_2 per day, totaling 56,957 metric tons per year.[460]

(d) Reliability of the SA-07 Alternative

461. There is no evidence that NDPC or any other pipeline operator would construct the SA-07 Alternative.[461]

10. The Features of the System Alternative 8

462. SA-08 was suggested by HTE as a system alternative to avoid high-quality water areas and areas where wild rice is grown.[462]

463. A number of public commentators noted that the lakes and ricing areas crossed by the Applicant's Preferred Route are "some of the most culturally and ecologically significant in the world," and that these areas are "very vulnerable to any type of spill or disruption."[463]

464. These commentators urged avoiding intrusions into these ricing areas so as to protect the culture and livelihood of native people.[464]

---

[458] *Id*. at 134.

[459] *Id*. at 136 and 139.

[460] *Id*. at 145-149.

[461] Evid. Hr'g Tr. Vol. 2, at 63:23 - 64:17 and 67:15-19 (MacPhail); Evid. Hr'g Tr. Vol. 3, at 56:13-17 (Palmer).

[462] *See generally,* Comments of Friends of Headwaters, MPUC Docket no. 13-473, at 21 (August 21, 2014) ("The general policy intent of these routes was to avoid going through Minnesota's most pristine aquatic and wild rice [areas] while still providing crude oil transportation service to northern Illinois") (eDocket No. 20148-102448-01); *see also,* Exs. 233, 236 and 237.

[463] Public Comment by Gaius Poehler (January 23, 2015) (eDocket No. 20151-106649-01).

[464] *See, e.g.,* Public Comment by Mary and Tim Anderson (January 23, 2015) (eDocket No. 20151-106524-01); *accord,* Public Comment by Deanna Johnson (August 19, 2014) (eDocket No. 20148-102490-01) ("the proposed Sandpiper route would follow the historic wild rice harvesting route which has been used for thousands of years by our native people and which continues to be critical to their spiritual, social, and economic life"); Public Comment by Jan Best (January 22, 2015) (eDocket No. 20151-106649-01) ("an ancient Ojibwe prophecy started the migration 1500 years ago of 10,000 Ojibwe from the Gulf of St. Lawrence to where 'food grows on water' … wild rice, so Minnesota needs to preserve this

(a) Size, Type, and Timing of the SA-08 Alternative

465. SA-08 begins in Tioga, North Dakota, at the Beaver Lodge Station and follows the Preferred Route east to Grand Forks, North Dakota, where it intersects with the I-29 corridor and travels south to Fargo, North Dakota. It continues traveling southeast along the I-94 corridor towards the Twin Cities metropolitan area. Just northwest of Maple Grove, it turns east and follows an existing pipeline generally east across the north suburbs before turning south and following another existing pipeline across the east suburbs before terminating in Rosemount, Minnesota.[465]

466. SA-08 is approximately 635 miles long and crosses 12 counties in North Dakota and 15 counties in Minnesota.[466]

467. SA-08 is approximately 10 miles longer than the Preferred Route, but does not connect with terminals in Clearbrook, Minnesota or Superior, Wisconsin.[467]

468. Of the Line 81 oil stocks, approximately 60,000 bpd is delivered to Minnesota refineries on the MPL System from Clearbrook. To the extent that the SA-08 Alternative urges construction of a 635-mile pipeline to deliver to Minnesota refineries either redundant service for their current consumption of 60,000 barrels of oil per day, or capacity for future refining, the SA-08 Alternative significantly outpaces the likely near-term demand by those refiners.[468]

469. The SA-08 Alternative would have a much later in-service date than the proposed Project. Additional time would be needed to conduct the detailed routing, environmental analysis and landowner outreach that have been completed for the proposed Project.[469]

(b) Cost of the SA-08 Alternative

470. When compared to the Preferred Route, SA-08 requires 10 additional miles of 30-inch pipe. The cost of this material totals $24 million. Additionally, SA-08 would require one new pump station to be constructed, along with four new pumps. The cost of these additional facilities is $38 million. The combined additional construction costs for SA-08 are $62 million.[470]

---

historical Ojibwe area of northern Minnesota that was foretold in ancient sacred scrolls as the end point of the migration").

[465] Ex. 80, at 43 (EERA Report).

[466] *Id*.

[467] Ex. 17, Schedule 1, at 158, 176 and 178 (Eberth Rebuttal).

[468] *See* Ex. 50, at 3, n.2, 6:2-4 and 88:20 - 89:12 (Heinen Direct).

[469] *See* Evid. Hr'g Tr. Vol. 2, at 104:6-15 (MacPhail); Evid. Hr'g. Tr. Vol. 4, at 89:13-17, 102:20-24 and 141:17-142:16 (Simonson); Vol. 5, at 93:15 – 94:-18 (Ploetz).

[470] Ex. 17, Schedule 1, at 173 (Eberth Rebuttal).

471. If SA-08 were approved, uncommitted shippers would have to pay an incremental toll of $0.13 per barrel. The impact on the committed tolls would be directionally consistent with the impact on the uncommitted tolls.[471]

472. SA-08's daily power consumption is much higher than the Preferred Route, requiring an additional 47.4 MWh per day. This incremental power consumption would total 17,313 MWh per year. When reviewing the additional daily power costs, SA-08 costs $3,318 per day more than the Preferred Route.[472]

(c) Effect of the SA-08 Alternative on the Natural Environment

473. The SA-08 Study Area crosses more counties, cities, and population centers than the Preferred Route. Specifically, the SA-08 Study Area crosses the following cities: Fargo, North Dakota; and Albertville, Alexandria, Arden Hills, Big Lake, Brooklyn Center, Brooklyn Park, Champlin, Columbia Heights, Coon Rapids, Corcoran, Cottage Grove, Fergus Falls, Fridley, Inver Grove Heights, Lake Elmo, Little Canada, Mahtomedi, Maple Grove, Maplewood, Minneapolis, Monticello, Moorhead, New Brighton, North St. Paul, Oakdale, Otsego, Rogers, Rosemount, Roseville, Shoreview, St. Anthony, St. Cloud, St. Joseph, St. Michael, St. Paul Park, Vadnais Heights, Waite Park, White Bear Lake, and Woodbury, Minnesota.[473]

474. The SA-08 Study Area also contains more federally-owned and administered lands, including lands within the NPS Mississippi National River and Recreation Area, and a large amount of land within the USFWS WPAs.[474]

475. The SA-08 Study Area contain more acres of prime farmland, crosses more watersheds, contains more miles of NHD water bodies and PWI streams, and contains more WHPAs, DWSMAs, and wells than the Preferred Route Study Area.[475]

476. Because of the additional pump stations required for SA-08, this Alternative would generate more indirect emissions, such as greenhouse gases. In comparison to the proposed Project, SA-08 would increase daily greenhouse gas emissions by 33 metric tons of CO_2 per day, totaling 11,946 metric tons per year.[476]

---

[471] *Id*. at 174.

[472] *Id*. at 173.

[473] *Id*. at 158.

[474] *Id*. at 159.

[475] *Id*. at 161 and 164-165.

[476] *Id*. at 170-73.

(d) Reliability of the SA-08 Alternative

477. There is no evidence that NDPC or any other pipeline operator would construct the SA-08 Alternative.[477]

478. There is no evidence that the SA-08 Alternative would deliver oil to markets where it is demanded.[478]

11. The Features of the No-Build Alternative

(a) Size, Type, and Timing of the Alternative

479. Under the No-Build Alternative, the Project would not be constructed, and shippers would be required to find alternative ways to transport crude oil from the Bakken region to the markets where they are needed.[479]

(b) Cost of the No-Build Alternative

480. Although the No-Build Alternative would not result in any construction costs, shippers and refiners would face increased costs to transport crude oil by other means.[480]

(c) Effect of the No-Build Alternative on the Natural Environment

481. HTE maintains that the total environmental costs of extracting and consuming the oil to be transported by the Project far exceeds the benefits conferred the Project.[481]

482. The hearing record demonstrates that if the Certificate of Need is denied, the oil that would have been transported by the Project will not remain in the ground. The North Dakota Department of Mineral Resources forecasts that current production of Bakken crude oil would only be "shut in" at $15 per barrel WTI – one-third of the WTI trading price during the evidentiary hearing. Crane Energy, using the lower operating

---

[477] Evid. Hr'g Tr. Vol. 2, at 63:23 - 64:17 and 67:15-19 (MacPhail); Evid. Hr'g Tr. Vol. 3, at 56:13-17 (Palmer).

[478] *See* Ex. 50, at 22:19 - 23:23 (Heinen Direct).

[479] Ex. 6, at 10:328-331 (Eberth Direct).

[480] Ex. 14, at 8:147-9:173 and Schedule 2, at 39 (Earnest Direct); Ex. 13, at 7:196-208 (Palmer Direct); Ex. 6 at 10:328-11:341 (Eberth Direct).

[481] Ex. 131, at 3:3-14 (LaDuke Rebuttal); *see also,* Comments of Janet Anderson (January 23, 2015); Comments of John Crampton (January 21, 2015); Comments of Wendy Darst (January 23, 2015); Comments of Elizabeth Dugan (January 21, 2015); Comments of John Iversen (January 23, 2015); Comments of Thodore Johnson (January 23, 2015); Comments of Barbara Kaufman (January 23, 2015); Comments of John Munter (January 23, 2015); Comments of Jim Tjepkema (January 22, 2015).

costs that would occur at these lower oil prices, forecasts shut-in prices between $8 and $10 per barrel.[482]

483. Concluding that the No-Build Alternative was not a reasonable alternative to the Project, Mr. Heinen stated that "it is clear that production levels in the Bakken formation have increased, and will continue to increase, and that these crude oil volumes will seek a way to market."[483]

484. If the Project is not granted a Certificate of Need, the most likely result is that Bakken crude oil will move to market by way of rail and truck. Both of these transportation methods involve greater environmental and public safety risks; and both of the transportation methods make Bakken crude oil available for later refining and combustion.[484]

(d) Effect of the No-Build Alternative on the Socioeconomic Environment

485. Under the No-Build Alternative, Minnesota and the surrounding region would not realize the economic benefits of the Project, as detailed in Section V.B.1(d).[485]

(e) Reliability of the No-Build Alternative

486. The No Action Alternative is less reliable than the Project because producers and shippers would be required to utilize transportation methods that have lower capacity, higher costs, and greater risks. The alternatives for shippers delivering into the NDPC System would be to: (1) send the increased Bakken production to refineries outside North Dakota by truck or rail; (2) transport crude oil aboard non-NDPC pipeline systems that are also at capacity and subject to apportionment; and (3) hope that new pipelines are constructed. These options do not improve the reliability of oil transportation.[486]

487. Additionally, without the Project, Minnesota refineries would lose the benefits of redundant capacity adjacent to Line 81.[487]

12. Relative Risks and Benefits Among Alternatives

488. NDPC developed the Project application after consultations with shippers and refiners and through careful evaluation of alternatives and regional infrastructure. The proposed Project meets its shippers' near-term transportation requirements.[488]

---

[482] Ex. 30, at 9:238 -10:241 (Crane Surrebuttal); Evid. Hr'g Tr. Vol. 2 at 10:17–21 (Crane).

[483] Ex. 50, at 54:6-9 and Schedule AJH-29 (Heinen Direct).

[484] Ex. 11, at 6:186-90 (Ploetz Direct).

[485] Section V.B.1(d), *supra*.

[486] Ex. 3, Part 7853.0540, at 2 (Revised CN Application).

[487] *See* Ex. 6, at 10:324-328 (Eberth Direct); Ex. 18, at 6:174-7:184 (Earnest Rebuttal).

489. The Project also provides scalable capacity expansions to address future demand for Bakken crude oil.[489]

490. The Project will make efficient use of resources, including existing pipeline infrastructure.[490]

491. The Project will result in significant economic benefits to Minnesota, generally, and financially-distressed counties in Greater Minnesota, in particular.[491]

492. In general, the longer the pipeline route, the more power that is required to transport the crude oil along the pipeline. Therefore, the length of a pipeline is directly related to the production of emissions by that route.[492]

493. Because the Preferred Route is the shortest, it has fewer associated facilities, smaller power consumption and lower greenhouse gas and air emissions than the Alternatives.[493]

494. The Preferred Route carefully balances applicable environmental, engineering and construction standards.[494]

495. The proposed Project provides a mode of transporting Bakken crude oil to refineries in Padd 2 that is safer, more cost-effective, and with fewer environmental impacts than other methods.[495]

496. The rail alternative is not a reasonable alternative to the Project.[496]

497. The truck alternative is not a reasonable alternative to the Project.[497]

498. Each System Alternative obliges greater capital costs, operational costs, and delay before being placed into service in comparison to the Project.[498]

499. Each System Alternative Study Area contains more cities, counties, populated areas, residences, structures, schools, churches, cemeteries, wind turbines,

---

[488] Ex. 3, Part 7853.0240, at 1-2 (Revised CN Application).

[489] *Id*.

[490] Ex. 17, at 15:422-425 (Eberth Rebuttal).

[491] Ex. 16, at 2:29-34 (Lichty Direct).

[492] Ex. 17, Schedule 1, at 188 (Eberth Rebuttal).

[493] Ex. 17 at 16:430-32 (Eberth Rebuttal); Ex. 27, at 13:282-284 (Ploetz Rebuttal).

[494] Ex. 17, Schedule 1, at 189-190 (Eberth Rebuttal).

[495] Ex. 3, Part 7853.0240, at 4 (Revised CN Application).

[496] Ex. 50, at 72:2-3 (Heinen Direct); Ex. 80, at 17-29 (Section 2.2) (EERA Report).

[497] Ex. 50, at 65:17-18 (Heinen Direct); Ex. 80, at 31-37 (Section 2.3) (EERA Report).

[498] Ex. 17, at 16:437-439 (Eberth Rebuttal).

railroads, roads, and communication towers than the Preferred Route Study Area. The System Alternatives are more likely to impact privately-owned, federal, and tribal land. Each System Alternative contains more conservation easements than the Preferred Route Study Area.[499]

500. Each pipeline alternative presents the potential for impacts to lakes and groundwater. Compared to the System Alternatives, however, the Preferred Route has: the least number and lowest acreage of first downstream lakes; lowest topographic slopes and drainages; least amount of susceptible water table aquifer crossed; least amount of acreage of principal aquifer crossed; no fractured carbonated bedrock over which to cross; and the fewest sites with nearby potential groundwater contamination.[500]

501. The MPCA, FOH, and CCLS maintain that the Commission should not grant a Certificate of Need for any facility that would traverse sensitive environmental areas, on the grounds that the risk of a later oil spill is too great. For example, Richard Smith of the FOH Steering Committee testified:

> We believed that Minnesotans, through our Public Utilities Commission, should have the right to require a company that wants to cross its state with an oil pipeline carrying 375,000 barrels per day of oil to assess the environmental sensitivity of possible locations for such a pipeline and then construct it in an area of the state best able to withstand a possible catastrophic event. We therefore tried to propose alternative locations that would be better located from an environmental perspective.[501]

502. While not discounting this substantial concern, the opponents of the Applicant's Preferred Route have not established that any of the System Alternatives have lower risks of failure. The hearing record does not establish, for example, that the risk of a catastrophic event is lower with the SA-03 Alternative than the SA-Preferred Route.[502]

---

[499] Ex. 27, at 7:120-36 (Ploetz Rebuttal).

[500] Ex. 28, at 12:382-395 (Wuolo Rebuttal); Ex. 17, Schedule 1, at 192-193 (Eberth Rebuttal).

[501] Ex. 183, at 3:7-13 (Smith Surrebuttal); *see also,* Ex. 185, Attachment 1, at 4 (Schrenzel Surrebuttal) ("The unimpaired waters along the more northern routes are highly vulnerable to degradation by impacts of construction and potential spills.... It is also noted in the document that the most sensitive locations for potential spills include those areas that are proximate to surface waters such as lakes, wetlands or streams or where groundwater is near the surface. The remoteness of the pipeline route in some areas in northern Minnesota exacerbates this problem, should a spill or leak occur.")

[502] *See* Minn. R. 7853.0130 (B)(3) ("a more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record by parties or persons other than the applicant, considering ... the effect of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives"). Indeed, to the extent that SA-03-AM Study Area has more schools, churches, railroads, streets and population centers than the area adjacent to SA-Applicant, the inference leads in the opposite direction. Traffic loads, railroad crossings and overburdened soils are generally associated with added "external and dynamic forces" upon underground pipelines. *See* Ex. 17, Schedule 1 at 42 (Eberth Direct); Ex. 23, at 11:318-320 (Simonson Rebuttal); Evid. Hr'g Tr. Vol. 4, at 150:19 - 151:3 (Simonson).

503. Similarly, the hearing record does not establish that a pipeline rupture of the SA-03 Alternative in Detroit Lakes, Little Falls, or North Branch would be a better outcome for Minnesota than a rupture in a high-quality resource area. Indeed, CCLS and FOH assert that the comparative quality of the respective alternatives cannot be known without an Environmental Impact Statement (EIS). As the FOH's ecology expert, Paul Stolen, testified:

> The environmental consequences of oil loss to the environment, including large amounts of oil releases due to pipeline ruptures, needs to be thoroughly examined in spite of evidence that many miles of pipeline don't leak or rupture. In other words, this information is needed in spite of such events being rare and of low likelihood—even very low likelihood.
>
> Furthermore, such an analysis is standard procedure in methods of studying this topic, and, if not done would not be considered a proper risk analysis. Should a pipeline rupture of the magnitude of the Michigan event happen along certain areas of the proposed Enbridge route, environmental damage could be enormous.
>
> The environmental consequences of rare events that could occur during the project life (50 years for the sake of this discussion) needs to be a major factor in comparing routes, since the consequences, and response time, will differ on the routes.[503]

504. Based upon the hearing record, none of the System Alternatives present a clear advantage over the proposed Project. By avoiding certain high-quality water resources in the Central Lakes Region, the System Alternatives prioritize protection of a special set of resources over other potential impacts.[504]

505. Only one of the System Alternatives – SA-03-AM – purports to meet the identified market need: efficient crude oil deliveries to the terminals in Clearbrook, Minnesota, and Superior, Wisconsin.[505]

506. Further, none of the System Alternatives purports to deliver to the terminals in Clearbrook, Minnesota, and Superior, Wisconsin, under the terms and conditions of the executed TSAs.[506]

---

[503] Ex. 180 (Stolen Direct); *see also,* Ex. 111 at 1 (Chapman Direct) (While it is possible to use the "the spatial mapping capabilities of ArcGIS to organize data in a way to select an optimal route" and "produce a map that shows where risk of environment harm is greatest," CCLS did not have the time to do so); Ex. 112, at 6 (Chapman Rebuttal) ("It is exactly for this reason that we sought access to the GIS data from the DOC. We wanted to show that the approach taken does not provide the information that is needed to assess which route is environmentally superior.").

[504] Ex. 17, at 16:433-36 (Eberth Rebuttal).

[505] Ex. 80, at 12 (EERA Report); Evid. Hr'g Tr. Vol. 3, at 27:10-14 (Palmer).

[506] Ex. 17, at 15:427-429 (Eberth Rebuttal); Evid. Hr'g Tr. Vol. 1, at 50:14 - 52:7 (Eberth).

507. There is considerable doubt as to whether the TSAs and FERC declaratory order, which underlie the Project, would be transferrable, or replicable, if the Commission were to grant a CN to a System Alternative. For this reason, each of the System Alternatives includes a significant element of regulatory and financial risk.[507]

508. None of the entities that proposed a System Alternative is itself in the oil or pipeline industry, or offered into the record engineering or operational assessments in support of their proposals.[508]

509. No party, participant, or commentator stated that it would develop one of the System Alternatives if the Commission signaled its willingness to grant it a CN.[509]

510. Each entity that proposed a System Alternative assumed that the differences between the Alternative proposal, and the Project proposed by NDPC, would be willingly accepted by NDPC in return for a CN. This assumption is not confirmed by the hearing record.[510]

511. Given the significant commercial and regulatory challenges involved with developing an infrastructure project that crosses Minnesota, it is likely that none of the System Alternatives would be developed in the near-term.[511]

512. NDPC is under no legal duty to make new pipelines available to oil shippers in North Dakota or to develop additional pipeline capacity for refineries. NDPC does not operate as a "public utility" with a duty to meet existing needs for energy resources within a particular "service territory."[512]

513. Because there is no "duty to serve," the Commission's authority to insist that energy-delivering infrastructure be made available to specified communities, in a particular way, is different in the context of crude oil pipelines than it is with electricity transmission lines and certain natural gas pipelines.[513]

514. The hearing record makes clear that having the support of a willing pipeline developer matters – particularly if Minnesota is to obtain pipeline proposals that reflect sound financial, engineering and environmental practice. NDPC's proposed Project does the best job in minimizing the potential impacts to human populations and environmental resources, as well as resolving known constructability constraints and

---

[507] Evid. Hr'g Tr. Vol. 1, at 90:11 - 91:21 (Eberth); Ex. 21, at 19: 550-565 (MacPhail Rebuttal).

[508] *See* Ex. 80 (EERA Report).

[509] Evid. Hr'g Tr. Vol. 1, at 90:11 - 91:21 (Eberth).

[510] *Id*., *see also,* Evid. Hr'g Tr. Vol. 1, at 63:15 - 64:21 (Eberth); Evid. Hr'g Tr. Vol. 3, at 27:10-25 (Palmer).

[511] *Id*.

[512] *See generally, City of Saint Paul v. N. States Power Co.*, 462 N.W.2d 379, 384 (Minn. 1990); *In re City of Redwood Falls*, 756 N.W.2d 133, 136 (Minn. Ct. App. 2008).

[513] *Id*.

operational concerns. It does so because NDPC invested tens of thousands of man-hours determining the most appropriate features of its proposal.[514]

515. Denying a Certificate of Need for NDPC's Project would have an adverse effect on the future adequacy, reliability, and efficiency of energy supply to NDPC's customers, Minnesota, and neighboring states.[515]

C. The Consequences To Society Of Granting The Certificate Of Need Are More Favorable Than The Consequences Of Denying The Certificate.

516. When assessing whether the consequences to society of granting the CN are more favorable than the consequences of denying the certificate, the Commission considers a number of sub-factors:

(a) The relationship of the proposed facility, or a suitable modification of it, to overall state energy needs;

(b) The effect of the proposed facility, or a suitable modification of it, upon the natural and socioeconomic environments compared to the effect of not building the facility;

(c) The effects of the proposed facility, or a suitable modification of it, in inducing future development; and

(d) Socially beneficial uses of the output of the proposed facility, or a suitable modification of it, including its uses to protect or enhance environmental quality.[516]

1. The relationship of the proposed facility, or a suitable modification of it, to overall state energy needs.

517. The Williston Basin has become the largest source of crude oil in the Midwest.[517]

---

[514] *See* Ex. 17, at 189 (Eberth Rebuttal) ("The Sandpiper Route is the result of tens of thousands of hours conducting detailed environmental survey, holding landowner discussions and open houses to hear and address questions and/or concerns, and constructability reviews by staff experienced in pipeline construction and design"); *see also,* Evid. Hr'g. Tr. Vol. 4, at 89 - 95 (Simonson); Evid. Hr'g. Tr. Vol. 4, at 102:20-24 and 141:17-142:16 (Simonson); Vol. 5, at 93:15 – 94:-18 (Ploetz); Public Hr'g Tr. St. Cloud, at 160 (Mattison) ("[D]o you know how those [alternative] routes were developed, Judge Lipman? Another citizen and I on the library floor in Park Rapids, Minnesota with a felt tip marker and a state highway map developed most of those alternatives. Did we have time, engineering, and data for this kind of thing? No. But the rules said, in order to successfully fight against a proposed route, it was incumbent on us to develop an alternative.").

[515] *See* Ex. 14, Schedule 2 (Earnest Direct); Ex. 19 (Glanzer Rebuttal); Ex. 20 (Steede Rebuttal); Ex. 50 (Heinen Direct).

[516] Minn. R. 7853.0130(C).

518. The Project will provide two means of delivering Bakken crude to MPL. This enhances the reliability and continued supply of oil from the Williston Basin to Minnesota refineries.[518]

519. Maintaining a secure supply of crude oil to other parts of the United States also benefits Minnesota. Minnesota and the surrounding region are highly-integrated in terms of the distribution of refined products.[519]

520. Marathon is relying upon the Project to provide it access to secure, reliable, Midwestern sources of light crude oil, which it will refine and distribute throughout the Midwest. Without the Project, Marathon would either have to obtain crude oil from other sources, or would have to transport Bakken crude oil by other means. Either alternative is likely to increase the costs that Marathon would have to pay to obtain oil.[520]

521. The market conditions for Marathon are not unique. Because many of the refineries located within the states of Padd 2 have the capability to process light crude oil there is significant demand for the oil produced in the Bakken oil fields.[521]

522. If the refiners in Padd 2 can access oil stocks from North Dakota, they will choose these sources of oil over those that are further away. Shorter travel times reduce both supply-chain risks and transportation costs.[522]

523. Supply disruptions in neighboring states also disrupt prices and supply in Minnesota.[523]

524. It is likely that most of the crude oil transported by the Project will be processed in Midwestern refineries. Likewise, it is likely that most of the refined products will be consumed by people in the Midwest.[524]

525. The Project will allow Padd 2 refineries to satisfy local and national consumer demand for refined products in Minnesota, neighboring states, and beyond.[525]

---

[517] Ex. 14, at 5:93-101 (Earnest Direct).

[518] Ex. 8, at 6:160-165 (Glanzer Direct).

[519] Ex. 14, at 5:93-97 (Earnest Direct).

[520] Ex. 13, at 7:196-202 (Palmer Direct).

[521] Ex. 7, at 10:298-301 (Steede Direct).

[522] *Id.* at 10:307-309 (Steede Direct).

[523] Ex. 14, at 6:112-23 (Earnest Direct); Evid. Hr'g Tr. Vol. 3, at 31:6-10 (Palmer) ("[F]rom a petroleum standpoint the regions are interlinked. Minnesota doesn't stand as an island all alone. They're impacted by what happens in other areas around Minnesota.").

[524] Ex. 14, at 6:104-107 (Earnest Direct).

[525] Ex. 3, Part 7853.0240, at 7 (Revised CN Application); Evid. Hr'g Tr. Vol. 3, at 32:11-15 (Palmer).

2. The effect of the proposed facility, or a suitable modification of it, upon the natural and socioeconomic environments compared to the effect of not building the facility.

(a) Effect Upon the Natural Environment

526. Many members of the public recommended that the Commission deny the Certificate of Need on the grounds that Minnesota should not facilitate refinery access to crude oil. The commentators maintain that use and refining of crude oil contributes to climate change and that Minnesota should not acquiesce in these changes.[526]

527. The non-acquiescence urged by these commentators takes two different forms. The first is that a denial of the CN would be an effective strategy to "shut in" stocks of crude oil from within the Williston Basin.[527]

528. The second claim is that even if denial of the CN would not prevent the extraction of crude oil from the Bakken region, there is value in Minnesota refusing to participate in oil-based markets that are environmentally dangerous and immoral.[528]

529. As to the first claim, the production forecasts show that there will be growing supplies of crude oil production from the Williston Basin regardless of whether the Project is constructed. Additionally, given the fact that the North Dakota segment of the proposed pipeline has already won regulatory approvals in that state, there is real doubt that disapproving the Minnesota segment of the pipeline would be an effective strategy in preventing additional extraction.[529]

530. As to the second claim, to hold that no pipeline alternative is ever acceptable would be to resolve NDPC's Application on criteria that are not in the regulation. Such an analysis conflates two very different things: (1) "the effect of the proposed *facility*" on the natural environment; with (2) the effect that using *crude oil* has upon the natural environment. The first is a matter for the Public Utilities Commission to assess. The latter is a question for the Minnesota Legislature or Congress.[530]

---

[526] *See, e.g.*, Comments of Mary and Tim Anderson (January 23, 2015); Comments of Katherine Schafer (January 12 2015); Comments of Gerald Striegel (January 23, 2015); Comments of MN350 (January 23, 2015).

[527] *See, e.g.,* Duluth Tr. at 47 (LaForge); Duluth Tr. at 55-56 (Wilson); St. Paul Tr. at 66 (Romano); St. Paul Tr. 75-76 (Adamski).

[528] *See, e.g.,* Duluth Tr. at 48 (LaForge); Duluth Tr. at 210-13 (Schuyler); Crookston Tr. 89-90 (Hanes); St. Paul Tr. at 121-22 (Hokenson); St. Paul Tr. 224 (Bellingham).

[529] Ex. 14, at 7:142-144 (Earnest Direct); Ex. 31, at 4:81-88 (Earnest Surrebuttal); Ex. 30, at 8:203-9:210 (Crane Surrebuttal); Evid. Hr'g Tr. Vol. 3, at 103:24 - 104:3 (Steede).

[530] *Compare* Minn. R. 7853.0130 (c)(2) (emphasis added) with U.S. Const. Art. I, § 8 ("The Congress shall have power to ... regulate commerce with foreign nations, and among the several states ...."); Minn. Const. Art. III, § 1; *Minnesota Ctr. for Envtl. Advocacy v. Minnesota Pub. Utilities Comm'n*, No. A10-812, 2010 WL 5071389, at *6 (Minn. Ct. App. 2010) (unpublished).

531. Compared to the other transportation modes available for moving crude oil from North Dakota to refining markets, the proposed pipeline has the fewest environmental impacts of the System Alternatives under review.[531]

(b) Effect Upon the Socioeconomic Environment

532. In addition to these construction and operation benefits, the primary socioeconomic benefit to Minnesota and the surrounding region will be increased light crude oil supplies. The Project will directly benefit the entire Midwest, including Minnesota consumers and manufacturers, by better ensuring that secure supplies of light crude oil produced in the United States is readily available to refineries.[532]

533. Minnesota's economy relies heavily upon rail shipments.[533]

534. Historically, rail has had a relatively small share of the domestic crude oil transportation market.[534]

535. Rail's share of that market has substantially increased in the last several years as domestic production has increased.[535]

536. This has had a number of significant impacts in Minnesota – many of them quite negative to rail-dependent sectors of our economy. Too often farmers are unable to ship their crops and receive needed agricultural inputs on time. Likewise, power plants have gone without needed coal supplies.[536]

537. The Project has the potential to sharply reduce, and potentially eliminate, these impacts.[537]

538. The Project is designed to carry the equivalent of 40 percent of the country's crude oil volume that is currently transported by rail in the United States.[538]

539. An actual reduction in crude oil traffic on railcars would free up the rail system to boost service levels to rail-dependent sectors of Minnesota's economy.[539]

---

[531] *See* Ex. 3, Part 7853.0600, at 15 (Revised CN Application); Ex. 17, Schedule 1, at 195 and Chart 88, at 201 (Eberth Rebuttal); Ex. 80, at 25 (EERA Report).

[532] Ex. 14, at 5:93-6:122 (Earnest Direct).

[533] Ex. 15, Schedule 2, at 14-18 (Rennicke Direct).

[534] Evid. Hr'g Tr. Vol. 4, at 10:11-24 (Rennicke).

[535] *Id.* at 11:24 - 13:6 (Rennicke).

[536] *Id.* at 17:6 - 19:1 and 25:7-24 (Rennicke).

[537] *Id.* at 35:14 - 37:4, 39:8 - 40:24, and 47:16 - 49:3 (Rennicke).

[538] *Id.* at 26:13-27:11 (Rennicke).

[539] Ex. 15, at 2:38-41 and Schedule 2, at 32-42 (Rennicke Direct); Ex. 15, Schedule 2, at 7 (Rennicke Direct); Evid. Hr'g Tr. Vol. 4, at 35:14 - 37:4 (Rennicke).

3. The effects of the proposed facility or a suitable modification of it, in inducing future development.

540. DOC-DER concluded that the output from the Project "would provide a benefit to society by providing an essential feedstock used by refineries to produce various transportation, consumer, and industrial products and by induced development."[540]

541. The Project will generate business activity for a significant portion of Minnesota's rural economy, particularly in areas that have unemployment rates higher than the remainder of Minnesota.[541]

542. Local vendors will experience increased sales of goods and services during pipeline construction, as will local hotels, restaurants, repair shops, gasoline stations, and retail stores.[542]

543. The Project will likely result in new manufacturing jobs to produce the materials and components used for the Project.[543]

4. Socially beneficial uses of the output of the proposed facility, or a suitable modification of it, including its uses to protect or enhance environmental quality.

544. The refineries that receive crude oil from the MPL System and the NDPC System produce a wide range of industrial and commercial products, including transportation fuels, heating oil, and asphalt.[544]

545. Following the development of these products, Midwestern refineries ship these products to markets within Minnesota and the Midwest. Because the distribution system for these products is highly integrated, refined products produced from crude oil are readily available in each of these markets.[545]

546. The people of Minnesota and neighboring states benefit from access to these products, which they use in many aspects of their lives including transportation, heating their homes, clothing, food, medicine, and feedstock.[546]

---

[540] Ex. 50, at 113:16-19 (Heinen Direct).

[541] Ex. 200, at 4:15-16 and 5:3-5:15 (Blazer Direct); Ex. 230 at 2 (Herauf Direct).

[542] Ex. 200, at 6:18-7:8 (Blazer Direct).

[543] Ex. 220, at 6:27-36 (Barnett Direct).

[544] *See* Ex. 3, Part 7853.0240, at 7 (Revised CN Application); Ex. 13, at 12:315-324 (Palmer Direct).

[545] Ex. 14, at 5:93-6:122 (Earnest Direct).

[546] Ex. 1, Part 7853.0240, at 7 (CN Application); Ex. 13, at 12: 315-324 (Palmer Direct).

D. It Has Not Been Demonstrated on the Record that the Design, Construction, or Operation of the Proposed Facility Will Fail to Comply With Those Relevant Policies, Rules, and Regulations of Other State and Federal Agencies and Local Governments.

547. The fourth criterion under Minn. R. 7853.0130 assesses whether the design, construction, or operation of the proposed facility will fail to comply with applicable regulatory standards.[547]

548. The Project is subject to regulation by a number of federal, state, and local agencies – including the United States Army Corps of Engineers, the Commission, MDNR, MPCA, to county-level governments.[548]

549. NDPC's Application identifies the series of agencies from whom it must obtain approvals for the Project.[549]

550. The record demonstrates that NDPC has taken the actions needed to obtain the required approvals for the Project.[550]

551. NDPC provided updated information about the status of the various required state, federal, and local approvals for the Project.[551]

552. NDPC has pledged that it will abide by the conditions contained within any permit required by law.[552]

553. The record demonstrates that the design, construction and operation of the Project will meet the requirements of the applicable law.[553]

VI. POTENTIAL CONDITIONS UPON THE CERTIFICATE OF NEED

554. DOC-DER recommended that the Commission consider several conditions when issuing the CN for the Project.[554]

---

[547] Minn. R. 7853.0130(D).

[548] Ex. 3, Part 7853.0230, at 9-11 (Revised CN Application).

[549] *Id.* at 10-11.

[550] *Id.* at 9-11; Ex. 27, at 1:13-4:14 (Ploetz Rebuttal).

[551] Ex. 27, at 1-3 (Ploetz Rebuttal).

[552] Ex. 9, at 12:348-51 (Simonson Direct).

[553] Exs. 3 (Revised CN Application), 4 (Supplemental Information), 6 (Eberth Direct), 7 (Steede Direct), 8 (Glanzer Direct), 9 (Simonson Direct), 10 (Johnson Direct), 11 (Ploetz Direct), 12 (Haskins Direct), 17 (Eberth Rebuttal), 19 (Glanzer Rebuttal), 20 (Steede Rebuttal), 23 (Simonson Rebuttal), 25 (Haskins Rebuttal), 26 (Baumgartner Rebuttal), 27 (Ploetz Rebuttal) and 28 (Wuolo Rubuttal).

[554] *See, e.g.,* Ex. 50, 118:13-120:10 (Heinen Direct).

(a) Road access to shutoff valve locations

555. DOC-DER recommended that the Commission require NDPC to have road access, or access that does not require the use of equipment or machinery, to each of the shutoff valves located on the Project in Minnesota.[555]

556. NDPC installs valves in order to isolate sections of the pipeline during periods of maintenance purposes or in the event of a release.[556]

557. Federal pipeline regulations require the installation of these valves.[557]

558. NDPC has designed the Project with permanent road access to all valve locations to facilitate ready access to these locations.[558]

559. Inclusion of such a condition is appropriate and consistent with the federal regulatory practice.[559]

(b) Depth of cover

560. DOC-DER recommends that the Commission require NDPC to maintain the depth of cover over the pipeline during the operational life of the pipeline.[560]

561. Federal regulations require that the pipeline be buried at a depth of up to 48 inches, depending on the location of the pipe and the presence of rock.[561]

562. Minn. Stat. § 216G.07 (2014) requires a minimum depth of cover of 54-inches be maintained where the pipeline crosses cultivated agricultural lands, unless this requirement is waived by the landowner.[562]

563. NDPC confirms that it would construct the pipeline following all federal and state depth of cover requirements.[563]

564. If the Project became operational, Enbridge will implement depth of cover and geo-hazard monitoring programs.[564]

---

[555] Ex. 50, at 119:20-22 (Heinen Direct).

[556] Ex. 23, at 5:150-151 (Simonson Rebuttal).

[557] 49 C.F.R. Part 195 (2014).

[558] Ex. 23, at 8:231-9:245 (Simonson Rebuttal).

[559] *See* 49 C.F.R. Part 195.

[560] Ex. 54, at 12:14-21 (Heinen Surrebuttal).

[561] 49 C.F.R. 195.248.

[562] Minn. Stat. § 216G.07 (2014); *see also*, Minn. R. 7852.2300 (D) (2013).

[563] Ex. 3, Part 7853.0640, at 4 (Revised CN Application).

[564] Evid. Hr'g Tr. Vol. 3, at 101:21-24 (Steede).

565. The depth of cover program evaluates and monitors the depth of the pipeline. The geo-hazard program evaluates higher-risk erosion locations and identifies whether erosion has occurred within the pipeline system.[565]

566. Through these programs, NDPC identifies soil erosion issues that pose a risk to pipeline integrity and abates these issues.[566]

567. Including a permit condition that reflects state and federal regulatory practice on depth of cover would be appropriate.[567]

(c) The cost of emergency responder training

568. DOC-DER recommended that the Commission make clear that NDPC bears the cost of training first-responders on best practices in meeting pipeline-related emergencies.[568]

569. NDPC already bears the cost of training first-responders and will continue to do so.[569]

570. Including a permit condition that maintains the obligation to defray the costs of first-responder training on pipeline-related emergencies would be appropriate.[570]

(d) The specifics of emergency responder training

571. DOC-DER also recommended that NDPC train first-responders to identify different types of crude oil so that any emergency response could be adjusted to reflect the material involved.[571]

572. The United States Department of Transportation's Emergency Response Guidebook is the industry standard for first-responders following a crude oil release.[572]

573. Pursuant to the Guidebook, all types of crude oil are within the same product category – Category 1267 – and the responses to Category 1267 emergencies do not vary depending upon the type of oil that is released.[573]

---

[565] *Id.* at 101:24-102:4 (Steede).

[566] *Id.* at 103:4-10 (Steede).

[567] *See* Minn. R. 7852.2300 (D).

[568] Ex. 50, at 119:1-8 (Heinen Direct).

[569] Ex. 25, at 21:647-650 (Haskins Rebuttal).

[570] *See generally,* Minn. R. 7853.0130 (C)(2).

[571] Ex. 50, at 121:1-3 (Heinen Direct).

[572] Ex. 25, at 21:640-645 (Haskins Rebuttal).

[573] *Id*.

574. However well-intentioned, the substance of DOC-DER's recommendation is not supported by the hearing record.[574]

(e) Southern access extension

575. Section 4.02 of the TSA contains a number of conditions which, if not satisfied, would allow a committed shipper to terminate its TSA. [575]

576. Two of these conditions relate to the Southern Access Extension Pipeline (SAX), a proposed 167-mile 24-inch-diameter pipeline in Illinois that will transport crude oil from Enbridge's Flanagan Terminal near Pontiac, Illinois, to an existing crude oil terminal near Patoka, Illinois.[576]

577. The SAX project has been proposed by Illinois Extension Pipeline Company, L.L.C. (IEPC), a joint venture between Enbridge affiliate, Enbridge Energy Company, Inc., and Lincoln Pipeline, LLC, a subsidiary of Marathon.[577]

578. Under Section 4.02 of the TSA, if one or more of the conditions in Section 4.02 was not satisfied within nine months of the date that NDPC filed its petition for declaratory order with FERC, then a committed shipper could terminate its TSA. [578]

579. DOC-DER originally recommended that the Commission condition approval of a CN for the Project on the SAX pipeline reaching sufficient completion to satisfy the terms of the TSA.[579]

580. Following the filing of DOC-DER's direct testimony in this proceeding, several developments occurred that eliminated the need for this proposed condition. Principally, the TSA termination rights expired on December 12, 2014.[580]

581. Further, none of the committed shippers filed a notice of termination under the TSA.[581]

582. Last, the Illinois Commerce Commission (ICC) issued its Order on Reopening on December 17, 2014. This Order was the final ICC authorization required for construction of the SAX pipeline.[582]

---

[574] *See also,* Evid. Hr'g. Tr. Vol. 7, at 204:8-17.

[575] Ex. 21, Schedule 2, at 124-125 (MacPhail Rebuttal).

[576] Ex. 17, at 9:217-223 (Eberth Rebuttal).

[577] *Id.* at 9:220-223.

[578] Ex. 21, Schedule 2, at 124-125 (MacPhail Rebuttal).

[579] Ex. 50, at 118:17-23 (Heinen Direct).

[580] Ex. 17, at 10:240-243 (Eberth Rebuttal); *see also* FERC Docket No. OR14-21-000.

[581] Ex. 17, at 10:243-244 (Eberth Rebuttal).

[582] *Id.* at 9:210-213 (Eberth Rebuttal).

583. Construction of the pump stations is currently underway and construction of the mainline pipeline is anticipated to begin after spring road restrictions are lifted. NDPC projects that the pipeline construction will be completed before the end of 2015.[583]

584. Mindful of these later events, DOC-DER revised its recommendation to provide for periodic updates on the SAX pipeline construction.[584]

585. Including a permit condition that provides for periodic updates on the construction of the SAX pipeline would be appropriate.[585]

(f) Financial responsibility for the costs of spills

586. DOC-DER recommended that the Commission make clear that NDPC is financially responsible for all clean-up costs of any spills and impose permit conditions that NDPC maintain sufficient insurance to cover these costs.[586]

587. DOC-DER also requests that NDPC provide a full discussion of the funding mechanism NDPC has in place to account for all recovery and remediation efforts in the event of an incident.[587]

588. NDPC is responsible for emergency response and for funding emergency response at the time of an incident.[588]

589. Consistent with its obligations under federal and state law and its obligations as a responsible owner, NDPC employs a multi-level approach to ensuring it is prepared in the event of an emergency.[589]

590. NDPC possesses substantial resources, including significant capital, to fund the cost of a response and remediation.[590]

591. DOC-DER and NDPC continued to meet following the close of the contested case record to discuss a permit condition that would satisfy DOC-DER's

---

[583] Evid. Hr'g Tr. Vol. 7, 139:5-24 and 147:6-9 (Eberth).

[584] *Id.* at 175:11-21 and 193:6-11 (Heinen).

[585] *See generally,* Minn. R. 7853.0130 (C)(1).

[586] Ex. 50, at 119:9-10 (Heinen Direct); Ex. 54, at 55:21-23 (Heinen Surrebuttal).

[587] Ex. 50, at 121:10-12 (Heinen Direct).

[588] Ex. 17, at 14:371 and 14:382-384 (Eberth Rebuttal); Ex. 33, at 3:72-73 (Eberth Sur-Surrebuttal).

[589] *See, e.g.*, Minn. Stat. §§ 115E.02-.04; 49 C.F.R. Part 194; Ex. 17, Schedule 2, at 21-30 (Eberth Rebuttal).

[590] Ex. 17, at 14:371-373 (Eberth Rebuttal).

concerns regarding adequate financial assurance. Such talks are constructive and helpful to finding the best resolution of this question.[591]

592. Including a permit condition that requires NDPC to submit a description of the financial arrangements it has made, and will maintain, to meet its obligations under Minn. Stat. § 115E.04, subd. 4 and 49 C.F.R. Part 194 would be appropriate. One possibility might be to require submission of a copy of NDPC's narrative describing the "functional area of finance" required by 49 C.F.R. § 194.107(c)(3).[592]

(g) Thickness of pipeline walls

593. DOC-DER recommended that, absent further scientific or engineering studies, the Commission require NDPC to construct the entire length of pipe in Minnesota using thicker pipe walls than NDPC proposed.[593]

594. DOC-DER witness Mr. Adam Heinen stated that the pipe wall condition was intended to place an enhanced safety design standard on the Project.[594]

595. In response, NDPC provided third party engineering studies explaining the codes and standards that are used to calculate the appropriate pipe wall thickness.[595]

596. These reports detailed how the safety factors are calculated and how NDPC's designs will meet the federal standards.[596]

597. The federal pipeline safety laws are codified at 49 U.S.C. §§ 60101-60140. The United States Secretary of Transportation has the authority to prescribe minimum safety standards for pipeline transportation and for pipeline facilities.[597]

598. PHMSA is the federal agency with regulatory responsibility for the safety regulation of pipelines.[598]

599. Federal law preempts state safety regulation of interstate pipelines. 49 U.S.C. §§ 60104(c) provides that "[a] State authority may not adopt or continue in force safety standards for interstate pipeline facilities or interstate pipeline transportation."[599]

---

[591] See STATUS LETTER at 1 (April 7, 2015) (eDocket No. 20154-109034-01).

[592] 49 C.F.R. § 194.107(c)(3) (2014).

[593] Ex. 50, at 102:4-11; 119:11-19 (Heinen Direct).

[594] Evid. Hr'g Tr. Vol. 7, at 197:10-13 (Heinen).

[595] Ex. 23, Schedules 5-12 (Simonson Rebuttal).

[596] *Id.*

[597] *See* 49 U.S.C. § 60102(a)(2) (2014).

[598] *See* 49 C.F.R. §§ 1.96 and 190.1 (2014).

[599] 49 U.S.C. § 60102(c).

600. 49 C.F.R. Part 195 - Transportation of Hazardous Liquids by Pipeline - "prescribes minimum design requirements for new pipeline systems constructed with steel pipe and for relocating, replacing, or otherwise changing existing systems constructed with steel pipe" and sets out a design formula, which includes nominal wall thickness as a factor, for determining the internal design pressure for the pipe in a pipeline.[600]

601. Federal code and industry standards provide a specific formula for determining pipe wall thickness based upon the maximum operating pressure of the pipeline, nominal outer diameter of pipe, yield strength, and other design and safety factors.[601]

602. Minnesota statutes and rules specifically disclaim a regulatory role by the Commission in setting pipeline design and construction standards.[602]

603. Following applicable codes and standards, NDPC designed the new 24-inch outer diameter pipe with a wall thickness of 0.375 inches for the majority of the distance and wall thicknesses of 0.438 - 0.500 inches where the pipeline crosses public roads, railroads, and water bodies.[603]

604. Using the same codes and standards, NDPC designed the new 30-inch outer diameter pipe with a wall thickness of 0.469 inches for the majority of the distance and wall thicknesses of 0.531-0.625 inches where the pipeline crosses public roads, railroads and water bodies.[604]

605. The thicker pipe wall at public road and railroad crossings reflects federal code and industry standards for addressing external and dynamic forces exerted by traffic loads and soil overburden.[605]

606. The thicker pipe wall at water body crossings addresses federal code and industry standards for withstanding the installation and operating stresses due to the

---

[600] 49 C.F.R. §§ 195.100, 195.106(a) (2014).

[601] Ex. 23, at 10:288-11:300 and Schedules 5-12 (Simonson Rebuttal).

[602] Minn. Stat. § 216G.02, subd. 3 (a) ("The Public Utilities Commission shall adopt rules governing the routing of pipelines [but] may not set safety standards for the construction of pipelines"); Minn. R. 7852.0100, subp. 28 (2013) (A "pipeline routing permit" "may not set safety standards for pipeline construction"); Minn. R. 7852.0200, subp. 2 (2013) ("The pipeline routing permit must not contravene applicable state or federal jurisdiction, rules, or regulations that govern safety standards for pipelines nor shall the permit set safety standards for the design or construction of pipelines"); *see also, Enbridge Energy, Ltd. P'ship v. Dyrdal*, 2009 WL 222648, at *6 (Minn. Ct. App. July 28, 2009) (unpublished) (Minn. Stat. § 216B.243 "does not purport to regulate pipeline safety or even contain the word 'safety.'").

[603] Ex. 9, at 3:92-95 (Simonson Direct); Ex. 23, at 11:302-308 (Simonson Rebuttal).

[604] *Id.* at 3:98-101 (Simonson Direct).

[605] Ex. 23, at 11:318-323 (Simonson Rebuttal).

friction, drag, tension, and pull loads imposed during directional drilling at these crossings.[606]

607. Bending, hoop, thermal, longitudinal and sheer stresses, based on the maximum operating pressure, are also factored into the pipe wall thickness calculations at these locations.[607]

608. Barry Simonson, Senior Manager of Engineering and Construction for the Project, testified credibly that the pipe wall thickness NDPC is proposing exceeds the requirements of federal code. Increasing the pipe wall thickness will not have an appreciable effect on the risk of leaks or ruptures during the Project's operations.[608]

609. The added materials and construction costs of increasing the pipe wall thickness on the entire length of right-of-way in Minnesota is approximately $48 million.[609]

610. When delays and the costs of reordering new pipe are factored in, the total cost of such a condition would likely exceed $150 million.[610]

611. While DOC-DER's recommendation on pipeline wall thickness is well-intentioned, it does not reflect applicable engineering standards, the underlying record, or the regulatory powers of the Commission. Such a condition is not appropriate.[611]

(h) Green pricing

612. NDPC's "neutral footprint program" includes a commitment to plant one tree for each merchantable tree that must be removed to construct the new facilities, conserve an acre of wilderness land for every acre permanently impacted, and generate a kilowatt hour of renewable energy for every kilowatt hour of energy consumed by expansion of the pipeline's operations.[612]

613. DOC-DER recommended that the Commission further require NDPC to purchase renewable energy credits to offset the electricity NDPC purchases for the Project in Minnesota. It recommended that NDPC meet such a requirement by utilizing Minnesota utility's green pricing program.[613]

---

[606] *Id.* at 11:325:329.

[607] *Id.* at 11:329-12:332.

[608] Evid. Hr'g Tr. Vol. 4, at 148:22-150:7 (Simonson); Ex. 23, at 10:283 – 14:399 (Simonson Rebuttal).

[609] Ex. 23, at 13:363-373 (Simonson Rebuttal).

[610] *Id.* at 13:375-14:393.

[611] Evid. Hr'g Tr. Vol. 4, at 148:22-150:7 (Simonson); Ex. 23, at 10:283 – 14:399 (Simonson Rebuttal).

[612] Ex. 17, at 11:279-299 (Eberth Rebuttal); Ex. 11, at 11:269 - 12:292 (Ploetz Direct).

[613] Ex. 50, at 47:10-22 (Heinen Direct). Under Minn. Stat. § 216B.169, subd. 2(a) (2014) an electric service utility "may offer its customers one or more options that allow a customer to determine that a

614. NDPC agrees to acquire renewable offsets equal to the incremental electricity consumed by the Project in Minnesota, but requests flexibility on the source of those offsets. The majority of the electricity used by the Project in Minnesota will be used at the Clearbrook West Terminal, which is served by Clearwater-Polk Electric Cooperative, a Minnkota Power Cooperative (Minnkota) distribution cooperative.[614]

615. Minnkota offers a green pricing program, called Infinity Wind, but this program is aimed at residential consumers.[615]

616. Given that Minnesota electric utilities serve exclusive retail service territories and that Minnkota's green pricing program is not a practical solution for the Project, NDPC seeks the opportunity to utilize other available, verifiable, market opportunities to acquire renewable energy offsets.[616]

617. Including a permit condition that provides for corresponding offsets of renewable energy credits equal to the amount of electricity NDPC uses for the Project in Minnesota would be appropriate.[617]

VII. SUMMARY OF PUBLIC COMMENTS

618. The Commission received numerous comments on NDPC's Application before the close of the comment period on January 23, 2015. Over 2,000 written comments regarding the Project were submitted, including comments from individual members of the public, state agencies, state legislators, counties, townships, cities, tribal groups, environmental organizations, chambers of commerce and other industry associations, watershed organizations, property owner associations, labor and trade unions, consulting, engineering, construction, and other professional service companies, and energy and power companies.[618]

---

certain amount of the electricity generated or purchased on behalf of the customer is renewable energy or energy generated by high-efficiency, low-emissions, distributed generation such as fuel cells and microturbines fueled by a renewable fuel." Such programs are commonly referred to as Green Pricing Programs.

[614] Ex. 17, at 12:307-311 (Eberth Rebuttal).

[615] *Id.* at 12: 311-319 (Eberth Rebuttal).

[616] *See generally,* Evid. Hr'g Tr. Vol. 7, at 190:3-22 (Heinen).

[617] *Id.* at 190:15 – 191:3.

[618] *See e.g.,* eDocket Nos. 20151-106579-01; 20151-106581-01; 20151-106537-01; 20151-106577-01; 20151-106544-01; 20151-106522-01; 20151-106573-01; 20151-106574-01; 20151-106494-01; 20151-106385-01; 201412-105848-01; 201411-104630-01; 201411-104507-01; 201410-104213-01; 20151-106573-02; 20151-106573-03; 20151-106573-04; 20151-106573-05; 20151-106634-01; 20151-106628-02; 20151-106629-09; 20151-106631-01; 20151-106649-01; 20151-106628-14; 20151-106629-07; 20151-106628-12; 20151-106628-04; 20151-106628-06; 20151-106628-08; 20151-106629-05; 20151-106629-11; 20151-106629-13; 20151-106629-03; 20151-106629-01; 20151-106628-10; 20151-106575-01; 20151-106521-01; 20151-106523-01; 20151-106520-01; 20151-106576-01; 20151-106524-01; 201412-105617-01; 201412-105621-01.

619. Numerous counties, townships, cities, associations, and organizations passed resolutions in support of the Project or issued letters of support for the Project.[619]

620. The propriety of the Project divided members of the Minnesota Legislature who submitted comments. There were Minnesota legislators who submitted letters in support of, and in opposition to, granting a Certificate of Need.[620]

621. The comments in support of the Project frequently touched upon:

(a) the economic benefits of new job opportunities;[621]

(b) the economic benefits of new tax revenue;[622]

(c) the comparative safety of transporting oil through a pipeline compared to transporting these supplies by rail or truck;[623]

---

[619] The resolutions included material from the: Aitkin County Board of Commissioners, Carlton County Board of Commissioners, Clearwater County Assessor, Clearwater County Board of Commissioners, Clearwater County Treasurer, Nelson County Board of Commissioners, Polk County Board of Commissioners, Red Lake County Board of Commissioners, Lake Pleasant Township, Red Lake County Township Association, Timothy Township Board, City of Crookston, City of Gonvick, White Earth Elders Council; Beltrami County Farm Bureau, Cass County Farm Bureau, Wadena County Farm Bureau, Bemidji Chamber of Commerce, Brainerd Lakes Chamber of Commerce, Dakota County Regional Chamber of Commerce, Duluth Area Chamber of Commerce, Grand Forks/East Grand Forks Chamber, Grand Rapids Area Chamber of Commerce, Hibbing Area Chamber of Commerce, International Falls Area Chamber of Commerce, Laurentian Chamber of Commerce, McGregor Area Chamber of Commerce, TwinWest Chamber of Commerce, Winona Area Chamber of Commerce, Belle Taine Lake Association, Conservationists with Common Sense, Duluth Seaway Port Authority, Grand Forks Region Economic Development, Gully Tri Coop Association, Mid-America Chamber Executives Advocacy Alliance, Minnesota AgriGrowth Council, Minnesota-Wisconsin Petroleum Council, North Dakota Petroleum Council, and Up North Jobs Inc.

[620] *See e.g.,* eDocket Nos. 20151-106626-09; 201412-105064-06; 20151-106578-01; 20151-106630-01.

[621] *See e.g.,* Bemidji Tr. at 56 (Bakkum); Bemidji Tr. at 109 (Folkers); Bemidji Tr. at 147 (D. Johnson); Crookston Tr. at 32 (Herauf); Crookston Tr. at 48 (G. Johnson); Crookston Tr. at 132 (Watkins); Duluth Tr. at 58 (L. Anderson); Duluth Tr. at 194 (Birkeland); Duluth Tr. at 50 (T. Dahl); Duluth Tr. at 228 (Dilger); Duluth Tr. at 207 (Gurske); Duluth Tr. at 74 (B. Hanson); Duluth Tr. at 36 (Korthals); Duluth Tr. at 121 (A. Kramer); Duluth Tr. at 216 (Liimatainen); Duluth Tr. at 66 (C. Olson); Duluth Tr. at 32 (John Peterson); Duluth Tr. at 32 (Norr); Duluth Tr. at 138 (Rossetter); Duluth Tr. at 200 (Rothe); St. Cloud Tr. at 206 (Geislinger); St. Cloud Tr. at 165 (P. Johnson); St. Cloud Tr. at 201 (Randolph); St. Cloud Tr. at 87 (Stai); St. Paul Tr. at 53 (Britz); St. Paul Tr. at 152 (Burkett); St. Paul Tr. at 124 (C. Johnson); St. Paul Tr. at 99 (W. Johnson); St. Paul Tr. at 39 (LaBorde); St. Paul Tr. at 79 (Melander); St. Paul Tr. at 91 (Muehlhausen); St. Paul Tr. at 141 (Pranis); St. Paul Tr. at 60 (Schott); Comments of Bernard J. Collins (January 15, 2015); Comments of Jake Fallos (January 23, 2015); Comments of Larry Gilbert (January 23, 2015); Comments of Donald Harper III (January 23, 2015); Comments of Chrystal Hawkins (January 15, 2015); Comments of Chaise Jokinen (January 23, 2015); Comments of Christopher Kraabel (January 23, 2015); Comments of Zac Lovedahl (January 23, 2015); Comments of Bob Molacek (January 23, 2015); Comments of Nancy McReady (January 15, 2015); Comments of Lois Paris (January 15, 2015); Comments of Justin Wallace (January 13, 2015).

[622] *See e.g.,* Bemidji Tr. at 49 (Collins); Crookston Tr. at 106 (Buness); Crookston Tr. at 126-27; Duluth Tr. at 115 (D. Olson); Comments of Calvin Johnson (January 14, 2015); Comments of Wendy Running (January 21, 2015); Comments of Warren Strandell (January 22, 2015); Comments of Vicki Stute (January 22, 2015).

(d) the prospect of freeing up rail cars for transporting other commodities;[624]

(e) the benefits of moving toward energy independence by using domestic oil supplies;[625] and

(f) Enbridge's sound safety and construction practices.[626]

622. The comments in opposition to the Project frequently touched upon:

(a) the near-term dangers of climate change and global warming;[627]

---

[623] *See e.g.,* Bemidji Tr. at 156 (Chastan); Bemidji Tr. at 211 (Gurske); Bemidji Tr. at 112 (Illies); Bemidji Tr. at 173 (Leshovsky); Bemidji Tr. at 147 (Naastad); Bemidji Tr. at 33 (Schoneberger); Crookston Tr. at 101 (Keil); Crookston Tr. at 83 (G. Larson); Crookston Tr. at 108 (M. Lee); Crookston Tr. at 79 (Lerohf); Crookston Tr. at 107 (R. Olson); Crookston Tr. at 102 (Osmonson); Crookston Tr. at 91 (Shulind); Crookston Tr. at 126 (Strandell); Duluth Tr. at 90 (Cannata); Duluth Tr. at 50 (T. Dahl); Duluth Tr. at 216 (Liimatainen); Duluth Tr. at 31 (Norr); St. Cloud Tr. at 131 (Braford); St. Cloud Tr. at 66 (Erlander); St. Cloud Tr. at 141 (Fowler); St. Cloud Tr. at 173 (Hennen); St. Cloud Tr. at 214 (J. Kramer); St. Paul Tr. at 181 (Back); St. Paul Tr. at 72 (Busselman); St. Paul Tr. at 39 (LaBorder); St. Paul Tr. at 210 (Santori); St. Paul Tr. at 34 (Schulte); St. Paul Tr. at 69 (Zelenka); Duluth Tr. at 81 (Wagner); Comments of Larry Anderson (January 23, 2015); Comments of Harry Bloom (January 23, 2015); Comments of Phillip Borer (January 23, 2015); Comments of Jari Carlson (January 23, 2015); Comments of Beverly Roberts (January 23, 2015); Comments of Jake Swiggum (January 23, 2015); Comments of Tim Tanberg (January 23, 2015).

[624] *See e.g.,* Bemidji Tr. at 103 (Christiansen); Bemidji Tr. at 97 (Prushek); Crookston Tr. at 112 (Dragseth); Crookston Tr. at 66 (J. Lee); Crookston Tr. at 110 (Perry);Duluth Tr. at 154 (Vollbrecht); Duluth Tr. at 127 (Werner); St. Cloud Tr. at 95 (Moenck); St. Cloud Tr. at 221 (Ransom); St. Cloud Tr. at 150 (Whiteside); St. Paul Tr. at 151 (Burkett); St. Paul Tr. at 72 (Busselman); St. Paul Tr. at 203 (Ratka); Comments of Riley J. Braford (January 23, 2015); Comments of Dennis L. Krill (January 23, 2015); Comments of Craig Neal (January 12, 2015); Comments of Brian Nelson (January 22, 2015); Comments of Dustin Rinta (January 23, 2015); Comments of Allan Rudeck, Jr. (January 16, 2015); Comments of Norm Vorhees (January 23, 2015).

[625] *See e.g., See e.g.,* Bemidji Tr. at 156 (Chastan); Bemidji Tr. at 72 (Gordon); Bemidji Tr. at 63 (D. Peterson); Crookston Tr. at 102 (Osmonson); Bemidji Tr. at 135 (Stenseng); Duluth Tr. at 173 (Weidman); St. Paul Tr. at 119 (Braford); St. Paul Tr. at 189 (Geislinger); St. Paul Tr. at 159 (Horvath); St. Paul Tr. at 193 (O'Connor); Comments of Craig Allen (January 23, 2015); Comments of Ken Bedtka (January 23, 2015); Comments of Elbert Carlisle (January 23, 2015); Comments of Dan Jost (January 23, 2015); Comments of Susan Hill (January 23, 2015); Comments of James L. Reed (January 23, 2015); Comments of Vicki Stute (January 22, 2015); Comments of John Zager (January 23, 2015).

[626] *See e.g.,* Bemidji Tr. at 156 (Chastan); Bemidji Tr. at 72 (Gordon); Bemidji Tr. at 190 (Moenck); Bemidji Tr. at 162 (Stay); Crookston Tr. at 79 (Lerohf); Duluth Tr. at 190 (J. Anderson); Duluth Tr. at 42 (Courtemanche); Duluth Tr. at 132 (Hansen); Duluth Tr. at 95 (Meyer); Duluth Tr. at 164 (Swor); St. Cloud Tr. at 39 (B. Anderson); St. Cloud Tr. at 83 (Bohnen); St. Cloud Tr. at 138 (Lampa); St. Cloud Tr. at 39 (Representative Lueck); St. Paul Tr. at 181 (Backs); St. Paul Tr. at 158 (Horvath); St. Paul Tr. at 115 (Milburn); St. Paul Tr. at 168 (K. Miller); St. Paul Tr. at 111 (Randolph); St. Paul Tr. at 46 (Wallace); Comments of Keith Brandt (January 6, 2015); Comments of Mark D. Hires (January 21, 2015); Comments of John Peterson (October 21, 2014).

[627] *See e.g.,* Duluth Tr. at 38 (Andrews); Bemidji Tr. at 182 (Hautala); Bemidji Tr. at 208 (Shimek); Duluth Tr. at 118 (Bol); Duluth Tr. at 98 (Mittlefehldt); Duluth Tr. at 59 (Munter); Duluth Tr. at 203 (Sneve); Duluth

(b) the need to encourage development of renewable energy sources and technologies;[628]

(c) the benefits of using other pipelines to transport oil;[629]

(d) the risk of spills, fires and leaks from an oil pipeline;[630]

(e) the length, breadth and efficacy of Enbridge's responses to earlier spills – including the 2010 spill into Michigan's Kalamazoo River;[631]

(f) potential impacts to Minnesota water resources including lakes, rivers, wetlands, watersheds, and aquifers;[632]

Tr. at 49 (Laforge); Duluth Tr. at 93 (Sorenson); Duluth Tr. at 55 (Wilson); St. Cloud Tr. at 122 (Andrzejewski); St. Cloud Tr. at 203 (Dashke); St. Cloud Tr. at 152 (Hancock); St. Cloud Tr. at 104 (Schmid); St. Cloud Tr. at 88 (K. Smith); St. Paul Tr. at 75 (Adamski); St. Paul Tr. at 136 (Carlson); St. Paul Tr. at 155 (Cox); St. Paul Tr. at 64 (Romano); St. Paul Tr. at 175 (Geist); St. Paul Tr. at 122 (Hokenson); St. Paul Tr. at 126 (Hollander); St. Paul Tr. at 113 (Holmen); St. Paul Tr. at 36 (Kline); St. Paul Tr. at 101 (Langholz); St. Paul Tr. at 116 (Menzel); St. Paul Tr. at 48 (O'Keefe); St. Paul Tr. at 148-49 (Sattinger); St. Paul Tr. at 81-83 (Striegel); Public Hearing Exhibits 4, 14; Comments of Amy Blumenshine (January 14, 2015); Comments of Barbara Kaufman (January 23, 2015); Comments of Brad Knight (January 20, 2015); Comments of Mary Ludington (January 22, 2015); Comments of Karl Nowak (January 23, 2015); Comments of Alan Smith (January 23, 2015).

[628] *See e.g.,* Bemidji Tr. at 93 (Babcock); Bemidji Tr. at 217 (Thayer); Bemidji Tr. at 176 (Goodwin); Bemidji Tr. at 46 (Weber); Crookston Tr. at 62 (Rasch); Duluth Tr. at 141 (Herron); Duluth Tr. at 185 (Schulstrom); Duluth Tr. at 178 (Szymialis); Duluth Tr. at 141 (Tammen); Duluth Tr. at 232 (Thompson); St. Cloud Tr. at 42 (Kutter); St. Cloud Tr. at 145 (Rose); St. Cloud Tr. at 209 (Redig); St. Paul Tr. at 186 (Dimond); St. Paul Tr. at 196 (Teigland); Comments of Amy Blumenshine (January 14, 2015); Comments of Barbara Kaufman (January 23, 2015); Comments of Mary Ludington (January 22, 2015); Comments of Karl Nowak (January 23, 2015); Comments of Alan Smith (January 23, 2015).

[629] *See e.g.,* Duluth Tr. at 69 (M. Dahl); Duluth Tr. at 123 (Lindberg); St. Cloud Tr. at 175 (Fisher); St. Cloud Tr. at 145 (Rose); St. Paul Tr. at 29 (Erickson); Comments of Dave Butcher (January 23, 2015); Comments of Tonia Kittelson (January 23, 2015); Comments of Sharon Natzel (January 23, 2015).

[630] *See e.g.,* Bemidji Tr. at 151 (Knight); Bemidji Tr. at 125 (T. Olson); Bemidji Tr. at 100 (Shellack); Duluth Tr. at 140 (Herron); Duluth Tr. at 54 (Wilson); St. Cloud Tr. at 77 (Edelbrock); St. Cloud Tr. at 175 (Fisher); St. Paul Tr. at 191 (Brooks); St. Paul Tr. at 43 (Lindh); St. Paul Tr. at 108 (Neaton); Public Hearing Exhibit 35; Comments of Karin Arsan (January 21, 2015); Comments of Janet Lee (January 17, 2015); Comments of LeRoger Lind (January 22, 2015); Comments of Maurice Spangler (January 21, 2015); Comments of Irene Weis (January 23, 2015).

[631] *See e.g.,* Bemidji Tr. at 75 (Deanna Johnson); Bemidji Tr. at 201-02 (Plumer); Bemidji Tr. at 53 (Spangler); Crookston Tr. at 75 (Monicken); Duluth Tr. at 76 (Gordon); Duluth Tr. at 140-41 (Herron); Duluth Tr. at 134 (Kwako); Duluth Tr. at 34 (Larsen); Duluth Tr. at 111 (Richardson); Duluth Tr. at 129 (Skinaway); St. Paul Tr. at 165 (Zimmer); Comments of Jan Beck (January 23, 2015); Comments of Vicki Bibeau (January 23, 2015); Comments of Samantha Cook (January 12, 2015); Comments of Lee Fousee (January 23, 2015); Comments of Ann Galloway (January 23, 2015); Comments of Adam Hasbargen (January 23, 2015); Comments of Thodore Johnson (January 23, 2015); Comments of Julie Kilpatrick (January 23, 2015); Comments of Curtis Nordgaard (January 23, 2015); Comments of Thomas Nelson (January 22, 2015); Comments of Jesse Peterson (January 20 and January 23, 2015); Comments of Thora Reynolds (January 23, 2015); Comments of Ellen Schousboe (January 21, 2015); Comments of Maurice Spangler (January 22, 2015); Comments of Darril Wegscheid (January 22, 2015).

(g) potential impacts on tourism;[633]

(h) potential impacts to wild rice;[634] and

(i) interference with tribal rights to hunt, fish, and gather.[635]

623. A number of commentators questioned the need for the Project, and ongoing demand for crude oil, because of the recent decline in oil prices.[636]

624. A number of commentators questioned the accuracy of projections as to future reductions in rail traffic if the Project was constructed.[637]

---

[632] *See e.g.,* Bemidji Tr. at 93 (Babcock); Bemidji Tr. at 36 (Baker-Knuttila); Bemidji Tr. at 31 (Cobenais); Bemidji Tr. at 86 (Diessner); Bemidji Tr. at 106 (A. Hanson); Bemidji Tr. at 110 (Lindquist); Bemidji Tr. at 141 (Natzel); Bemidji Tr. at 64 (Nelson); Crookston Tr. at 81 (Boyer); Crookston Tr. at 74 (Monicken); Duluth Tr. at 211 (Schuyler); St. Cloud Tr. at 97 (Jon Lee); St. Cloud Tr. at 172 (McCarter); Comments of Elizabeth Baker-Knuttila (January 23, 2015); Comments of Joshua Bruggman (January 23, 2015); Comments of Sharon Collins (January 23, 2015); Comments of Kyle Crocker (January 19, 2015); Comments of Deanna Johnson (January 21, 2015); Comments of Daniel Kittilson (January 23, 2015); Comments of Tonia Kittilson (January 23, 2015); Comments of Alysha Lee (January 23, 2015); Comments of Dan Wilson (January 23, 2015).

[633] *See e.g.,* Bemidji Tr. at 81 (Krueger); Bemidji Tr. at 69 (Reents); St. Cloud Tr. at 128 (Steen); Comments of Elizabeth Dugan (January 21, 2015); Comments of Kate Engelmann (January 21, 2015); Bonnie Farah (November 12, 2014); Comments of Loran Hillesheim (January 22, 2015); Comments of Gregory Johnson (January 20, 2015); Comments of LeRodger Lind (January 22, 2015); Comments of Ellen Shousboe (January 21, 2015); Comments of Darril Wegscheid (January 22, 2015); Comments of Thomas N. Watson (January 23, 2015); Comments of Dan Wilson (January 23, 2015).

[634] *See e.g.,* Crookston Tr. at 90 (Hanes); Bemidji Tr. at 202 (Plumer); Duluth Tr. at 197-98 (Howes); Comments of Elizabeth Baker-Knuttila (January 23, 2015); Comments of Bruce Brummitt (January 23, 2015); Comments of Jan Dalsin (January 23, 2015); Comments of Lea Foushee (January 19, 2015); Comments of Kat Engelmann (January 21, 2015); Comments of Jacqueline Hadfield (January 22, 2015); Comments of Carter Hedeen (January 20, 2015); Comments of Mark Herwig (January 23, 2015); Comments of Deanna Johnson (January 21, 2015); Comments of Barbara Kaufman (January 23, 2015); Comments of Mary Kowalski (January 22, 2015); Comments of Betty Larsen (January 22, 2015); Comments of Aimee Meyer (January 18, 2015); Comments of Jesse Peterson (January 20, 2015); Comments of Jack Sneve (January 22, 2015); Comments of Betty Tisel (January 23, 2015).

[635] *See e.g.,* Bemidji Tr. at 186-877 (Aubid); Crookston Tr. at 40 (LaDuke); Duluth Tr. at 197-98 (Howes); St. Cloud Tr. at 43 (Kutter); St. Paul Tr. at 171 (Tisel); Public Hearing Exhibit 53; Comments of Reyna Crow (January 22, 2015); Comments of Sharon Kutter (January 19, 2015); Comments of John Munter (January 23, 2015); Comments of Curtis Nordgaard (January 23, 2015); Comments of Sandy Sterle (January 22, 2015).

[636] *See e.g.,* Bemidji Tr. at 29 (Cobenais); Bemidji Tr. at 60 (Mosner); Bemidji Tr. at 51 (Spangler); Crookston Tr. at 39 (LaDuke); Duluth Tr. at 140 (Herron); Duluth Tr. at 166 (Hoppe); Duluth Tr. at 61 (Munter); St. Paul Tr. at 74 (Adamski); St. Paul Tr. at 191 (Brooks); St. Paul Tr. at 200 (Newton); St. Paul Tr. at 93 (Sterle); Comments of Elizabeth Baker-Knuttila (January 23, 2015); Comments of Lindsey Ketchel (January 23, 2015); Comments of Jon Lee (January 21, 2015); Comments of Sharon Natzel (January 23, 2015); Comments of Carolynne White (January 23, 2015).

[637] *See e.g.,* Bemidji Tr. at 60 (Mosner); Bemidji Tr. at 52 (Spangler); St. Cloud Tr. at 133 (Mizner); St. Paul Tr. at 201 (Newton); Comments of Katie Engelmann (January 21, 2015); Comments of Lindsey Ketchel (January 22, 2015); Comments of Sharon Kutter (January 19, 2015); Comments of Jesse

625. Many commentators requested that an EIS be prepared for the Project.[638]

Based upon these Findings of Fact, the Administrative Law Judge makes the following:

CONCLUSIONS OF LAW

1. With respect to the criteria of Minn. R. 7853.0130 (A):

(a) The record demonstrates that demand exists for both crude oil from the Bakken region and transportation services from North Dakota to refineries in Padd 2. Minn. R. 7853.0130(A)(1) weighs in favor of issuing a Certificate of Need for the Project.

(b) No conservation programs, at either the state or federal level, will eliminate the need for the Project. Minn. R. 7853.0130(A)(2) weighs in favor of issuing a Certificate of Need for the Project.

(c) NDPC has not conducted promotional practices which have created the need for the Project. Minn. R. 7853.0130(A)(3) weighs in favor of issuing a Certificate of Need for the Project.

(d) There are no existing or planned facilities that can satisfy the demand for the Project. Minn. R. 7853.0130(A)(4) weighs in favor of issuing a Certificate of Need for the Project.

(e) NDPC has demonstrated that the Project makes effective use of resources by expanding the existing NDPC System and providing back-up service to Line 81. Minn. R. 7853.0130(A)(5) weighs in favor of issuing a Certificate of Need for the Project.

2. With respect to the criteria of Minn. R. 7853.0130 (B), no party or person demonstrated by a preponderance of the evidence that there is a more reasonable and prudent alternative to the Project. Minn. R. 7853.0130(B) weighs in favor of issuing a Certificate of Need for the Project.

3. With respect to the criteria of Minn. R. 7853.0130(C):

Peterson (January 20, 2015); Comments of Jeffrey Sawyer (January 21, 2015); Comments of Ellen Shousboe (January 21, 2015); Comments of Thomas N. Watson (January 23, 2015).

[638] *See e.g.,* Bemidji Tr. at 118 (Mattison); Crookston Tr. at 78 (Monicken); St. Cloud Tr. at 70 (Adams); St. Paul Tr. at 92 (Sterle); Comments of State Senator Scott Dibble and State Representative Frank Hornstein (January 23, 2015); Comments of Elizabeth Dugan (January 21, 2015); Comments of Catherine Ferguson (January 23, 2015); Comments of Kevin Grubrud (January 22, 2015); Comments of Florence Hedeen (January 21, 2015); Comments of Lindsey Ketchel (January 23, 2015); Comments of Karl Nowak (January 23, 2015); Comments of Maurice Spangler (January 21, 2015).

(a) The hearing record demonstrates that the Project will enhance the future adequacy, reliability, and efficiency of the energy supply needed by the state of Minnesota and the surrounding region. Minn. R. 7853.0130(C)(1) weighs in favor of issuing a Certificate of Need for the Project.

(b) The hearing record demonstrates that the Project will have positive socioeconomic impacts on Minnesota and the surrounding region. Further, the Project is as compatible, or better, for the natural environment than competing alternatives, including the No-Building Alternative. Minn. R. 7853.0130(C)(2) weighs in favor of issuing a Certificate of Need for the Project.

(c) The hearing record demonstrates that the Project will have a positive impact on future development through increased economic activity, greater employment, and additional property tax revenues for local governments. In addition, the Project will facilitate development by providing a reliable, efficient, and safe method for transporting Bakken crude oil to market. Minn. R. 7853.0130(C)(3) weighs in favor of issuing a Certificate of Need for the Project.

(d) The hearing record demonstrates that the Project is the most socially beneficial method to transport crude oil which will be turned into refined products, including fuel and petrochemicals required by Minnesota consumers. Minn. R. 7853.0130(C)(4) weighs in favor of issuing a Certificate of Need for the Project.

4. With respect to the criteria of Minn. R. 7853.0130(D), the hearing record demonstrates that the design, construction, and operation of the Project will comply with the relevant government policies, rules and regulations. Minn. R. 7853.0130(D) weighs in favor of granting a Certificate of Need for the Project.

5. The record evidence demonstrates that none of the System Alternatives (SA-03, SA-03-AM, SA-04, SA-05, SA-06, SA-07 and SA-08) are more reasonable and prudent alternatives than the Project.

6. All of the proposed Alternatives would have later in-service dates than the proposed project because nearly none of the detailed routing, environmental analysis and landowner outreach has been completed as to these Alternatives.

7. Additionally, none of the proposed Alternatives have either a development sponsor or underlying financial commitments. Proponents of the alternatives assume, but have not established in the hearing record, that the financial commitments that underlie Applicant's proposed Project are transferrable to other Alternatives.

8. Because SA-03, SA-04, SA-05, SA-06, SA-07, and SA-08 do not connect to both Clearbrook and Superior, they do not meet the Project's need and should not be considered further.

Based upon these Conclusions of Law, the Administrative Law Judge makes the following:

RECOMMENDATION

The Minnesota Public Utilities Commission should:

1. **GRANT** the requested Certificate of Need.

2. **REFER** only the proposed project, SA-Applicant, for further proceedings in the routing docket (MPUC Docket No. 13-474, OAH Docket No. 2500-32159).

3. **CONDITION** the Certificate of Need upon:

   (a) providing permanent road access to all valve locations;

   (b) implementing state and federal regulatory practice on depth of cover;

   (c) a program that defrays the costs of first-responder training on pipeline-related emergencies;

   (d) submission of compliance filings that provide updates on the construction of the SAX pipeline;

   (e) submission of a description of the financial arrangements NDPC has made, and will maintain, to meet its obligations under Minn. Stat. § 115E.04, subd. 4 and 49 C.F.R. Part 194; and

   (f) submission of compliance filings that establish that NDPC has made corresponding offsets of renewable energy credits equal to the amount of electricity NDPC uses for the Project in Minnesota.

Dated: April 13, 2015

s/Eric L. Lipman
ERIC L. LIPMAN
Administrative Law Judge

NOTICE

Notice is hereby given that exceptions to this Report, if any, by any party adversely affected must be filed under the time frames established in the Commission's rules of practice and procedure, Minn. R. 7829.2700,.3100 (2013), unless otherwise directed by the Commission. Exceptions should be specific and stated and numbered separately. Oral argument before a majority of the Commission will be permitted pursuant to Part 7829.2700, subpart 3. The Commission will make the final determination of the matter after the expiration of the period for filing exceptions, or after oral argument, if an oral argument is held.

The Commission may, at its own discretion, accept, modify, or reject the Administrative Law Judge's recommendations. The recommendations of the Administrative Law Judge have no legal effect unless expressly adopted by the Commission as its final order.

MEMORANDUM

While the Commission is presented with many complex cases to resolve, this one is a lot harder than it ought to be.

On that point, and mindful that more than 100 pages has already been consumed by this Report, a few more words are needed. This is because the features that made this case especially difficult and expensive are likely to recur in the future. Going forward, the Commission may wish to reflect on the sources of this difficulty and whether it has the kind of hearing records that it needs to resolve cases.

More often than in other kinds of disputes, the parties to pipeline cases talk past each other, almost as if they are litigating very different lawsuits. In this case, the parties not only differed as to their answers to key questions, they also bitterly divided on which questions were raised in the proceeding.

The disconnect follows from a mismatch between the text and structure of the Certificate of Need regulation, on the one hand, and the concerns that the public might reasonably have about approving oil pipelines, on the other. The text and structure of Minn. R. 7853.0130 leads readers to conclude that if a proposed pipeline is the most effective response to genuine market demands, is designed well, and will be installed carefully, "a certificate of need *shall be* granted."

Yet, for many, the words "shall" and "pipeline" are simply incompatible.

The opponents of the Project comprise two broad categories: those who have genuine misgivings about America's use of so much crude oil, and those who think that no pipeline should ever move directly east from Clearbrook, Minnesota to Superior, Wisconsin. Each of these groups may be right; there is a lot to commend both views. But both groups run head-long into the underlying premise of the regulation – namely, that no carefully-planned, market-supported and thoroughly-resourced proposal is ever categorically unacceptable. Under the regulation, each alternative (including building nothing at all) is compared against the other possibilities and "the evidence on the record."[639]

In this case, while there was considerable discussion about pipeline leaks and ruptures, there was no evidence that the risk of a catastrophe is lower, or the outcomes better, if a System Alternative was chosen. Everyone agrees that an oil spill in Aitkin County or Carlton County would be very bad. Whether it would be better, or less likely, for a pipeline to break in another community, no one says for sure.[640]

Likewise true, a Certificate of Need proceeding is not an appropriate forum to resolve the much larger questions as to what are safe levels of fossil fuel consumption, or whether some areas of the state should be free from utility corridors. To have

---

[639] *See* Minn. R. 7853.0130 (b).

[640] *See, e.g.,* Finding 502, *supra*.

resolved NDPC's Application on either of those grounds is not to have applied the law.[641]

And yet, because so many members of the public came forward to urge the Commission to do precisely that, and in such numbers that staff reserved venues that are normally set aside for rock concerts and sales conventions so as to hear from them, it begs the question of whether the Commission should consider describing the scope of its review more precisely than it has in the past. Specifically, if the Commission does not read the regulatory phrase, "the effect of the proposed facility upon the natural environment,"[642] so broadly as to invite inquiries into "rising global temperatures, changing precipitation patterns, climbing sea levels ... global instability, hunger, poverty, and conflict,"[643] it should say so. Not saying so implies that the Commission will, in fact, attempt to resolve those issues in the context of a pipeline docket.

The addition of those larger items to the hearing agenda has a significant impact. It adds genuine complexity and expense to a contested case[644] – and the burdens of

---

[641] *See generally, Minnesota Ctr. for Envtl. Advocacy v. Minnesota Pub. Utilities Comm'n*, No. A10-812, 2010 WL 5071389, at *6 (Minn. Ct. App. 2010) (unpublished) ("According to MCEA, the environmental effects that must be examined are the 'effect on global warming from the increase in greenhouse gas emissions associated with refining the tar sands [in Alberta, Canada] and using the resulting petroleum, the destruction of carbon-sequestering boreal forests and bogs in northern Alberta, and the subsequent release of carbon from those boreal forests and bogs.' But rule 7852.1900, subp. 3(I), concerns the designation of a route for a proposed pipeline, whereas the effects with which MCEA is concerned relate to the tar-sand refining process in Alberta and the existence of the pipeline generally - *not to the LSr pipeline route itself*.") (emphasis added); *see also, Citizens Advocating Responsible Dev. v. Kandiyohi County Bd. of Comm'rs,* 713 N.W.2d 817, 830 (Minn. 2006) ("[A] cumulative potential effects analysis is limited geographically to projects in the surrounding area that might reasonably be expected to affect the same natural resources — for instance, a nearby lake — as the proposed project").

[642] Minn. R. 7853.0130 (b)(3).

[643] HONOR THE EARTH'S POST-HEARING BRIEF, at 19 (eDocket No. 20152-107791-01); *accord,* Comments of Katie Engelmann (January 21, 2015) ("The impact on communities in North Dakota that are associated with the Bakken Boom have experienced unsustainable population growth leading to human trafficking, crime, drug use and trafficking, lack of adequate and safe housing, shortage of police and emergency response workers, cost of living increases and many health problems"); Comments of Jesse Peterson (January 20, 2015) ("These problems are global encompassing passing on the burdens to people that received of any of perceived benefits. The problems of global warming include flood, famines, droughts and dislocation of peoples that various scientists and other professionals insist will cause greater harm to peoples of poorer nations that did not produce nor consume the oil, its products or gain the profits from them.").

[644] *See e.g.,* Attachment B to NDPC'S MOTION TO STRIKE (eDocket No. 20153-108011-02) (the Applicant moved to strike materials that were not timely-offered by a sponsoring witness); HONOR THE EARTH'S RESPONSE TO NDPC'S MOTION TO STRIKE, at 2-3 (eDocket No. 20153-108255-01) ("The issues, information, articles and other concerns raised in the Initial Brief are the reality of the inconvenient truth of climate change happening every day in our world. Striking those thoughts, questions and words from the record does not strike them from reality for the people of earth or Minnesota. The message is out, it is obvious, and the whole world knows every living thing needs water to survive.").

coping with that complexity and expense falls upon energy companies, government agencies and ordinary citizens alike.[645]

Lastly, if no utility corridor should ever enter areas with "the highest-quality natural resources in the state,"[646] the Commission should plainly identify those areas. It should do so in advance so that parties will not develop infrastructure proposals or system alternatives that are unlikely to win Commission approval.[647]

The Commission should consider clarifying the scope of its decision-making under Minn. R. 7853.0130, because the challenges found in this case will recur.

We know that is true because it is a matter of geology and geography. Regardless of whether one refers to oil, coal, solar or wind resources, Minnesota lies between energy-rich areas in the Dakotas and Western Canada, and the urban centers to the East that are eager for those resources. Beyond today, and the particulars of this case, someone soon will want to transport energy across Minnesota to these markets.

E. L. L.

---

[645] *Compare e.g.,* Comments of Janet Anderson (January 23, 2015) ("Rule 7853.0130 seems oriented more towards power plants, and its questions are difficult to apply to this case") and Comments of Elizabeth Baker-Knuttila (January 23, 2015) ("I am a citizen trying to understand a complicated and confusing process entered into by a powerful international corporation Enbridge Energy, doing business as NDPC, LLC, seeking to build a pipeline through our state's pristine lake country of Northern Minnesota.") with St. Cloud Tr. at 39-41 ("So at this point I'm concerned about the delays, and I don't believe the Public Utilities Commission is acting in the general public interest at this point by delaying this process and splitting it into two pieces.... This is not about anything more simply than we need to put the crude oil in pipelines in the interest of public safety…. So we need to get on with this process. It's putting the safety of Minnesota citizens at risk for no reason.") (State Representative Dale Lueck).

[646] *See e.g.,* MPCA Comments, *supra,* at 4.

[647] *See generally,* Evid. Hr'g Tr. Vol. 4, at 102:20-24 (Simonson) (NDPC has "in about I think 150,000-plus hours of surveying, whether it's engineering, construction, or environmental, along the preferred route to the south"); St. Cloud Tr. at 161 (Mattison) ("I'll contend, [Judge Lipman], that there are better routes that will never see the light of day because the process is so stacked against the people who try to defend their resources. If the rules auger against the citizens and auger against the environment, it's incumbent upon you in the judiciary and you in the executive branch to say so on the record. Don't hide behind the rules and simply say: 'We're conforming with the rules.'").